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ABSTRACT

Six individual case studies are presented that illustrate in greater depth how the Genesee Valley Regional Center of the Empire State College (New York) met students' educational goals as well as how these particular individuals challenged the academic program. The case studies provide a means to examine student learning and the center's search for quality education. The general observations offered are of two types: those that illuminate how the center served diverse students and those that illustrate challenges to the quality of the academic program. Areas and issues of interest (both student and institution) which are examined through the case studies include: the quality of education of full-time study; being able to achieve educational, vocational, and personal outcomes; dealing with high-risk as well as outstanding students; providing sufficient resources; developing quality assessment and vocationally defined programs; and the maintaining of creative tension between student centeredness and academic quality. (GLR)

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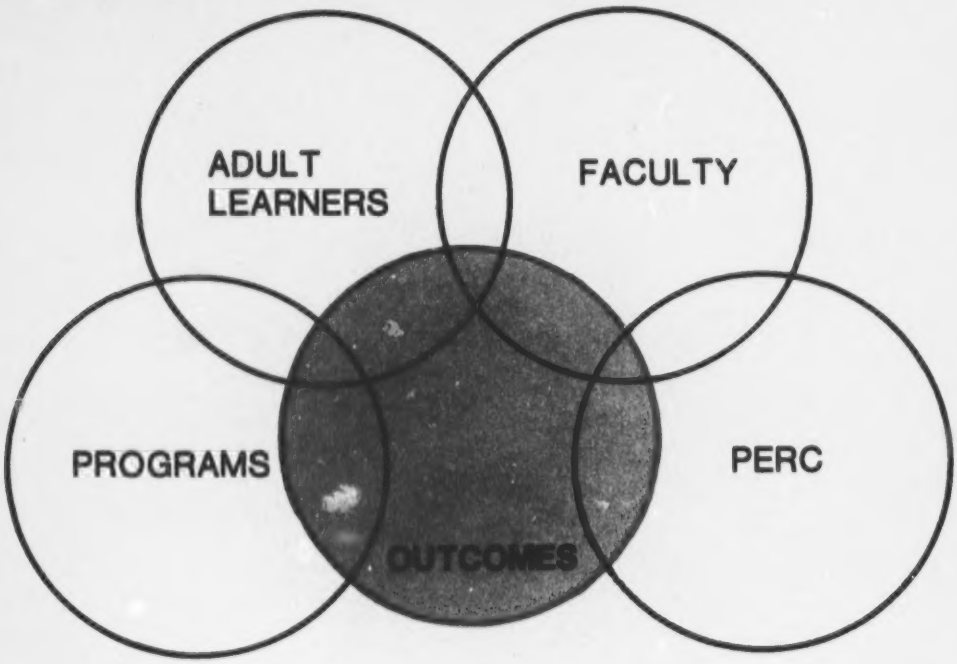

STUDENT LEARNING AND QUALITY EDUCATION

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STUDENT LEARNING AND QUALITY EDUCATION

SIX CASE STUDIES

OF STUDENT LEARNING

Prepared by

Office of Research and Evaluation
Empire State College
Saratoga Springs, New York

1984

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INTRODUCTION

Case studies of students and graduates can provide a focused and effective way to demonstrate student learning outcomes and challenges to the academic program presented by particular individuals. After discussion with the GVRC administration and faculty, research staff included in the overall design of the center program evaluation a selection of cases that would meet certain criteria established as part of the evaluation strategy (ORE, "The Quest for Quality," January 1983). Since the quest for academic quality was a central theme in the Rochester evaluation, case studies were used to determine, in greater depth, what students learned in the course of their programs at the center and how the center responded to particular challenges presented by those students. The cases in this report came from the group of students selected for the faculty panel review and described in a document, Results and Recommendations: Panel Review of the GVRC Program by ESC Faculty (ORE: February 1984). The case study approach extended and intensified the analysis efforts of the faculty panel with research staff interviewing the students, Genesee Valley mentors, and administrators in addition to analyzing students' records. Therefore, the case study report can be viewed as a companion study to the panel review report.

A central question involved in the case study approach is to determine what criteria will be applied to select the cases. Two clusters of criteria, discussed with the GVRC administration, guided the particular selection of cases. The first set of criteria were demographic characteristics and personal qualities of the individuals. Criteria here included age, sex, marital status, social class, amount of previous education, and dramatic career changes. In addition, the level of motivation, attitudes toward

previous education, and unusual life circumstances prior to enrolling were considered. For example, women returning to college after many years and seeking new careers in male-dominated fields such as business or science were considered. Persons with weak academic backgrounds or other high risk conditions as well as outstanding performance in the program were also considered.

The second cluster of criteria focused on challenges to the program. Included here were such criteria as individualized degree design or unique concentration, unusual use of program resources, problematic student-mentor relationships, assessment process challenges, large amounts of credit by evaluation, unit-center relationships, full-time and part-time study, and administrative responses to student problems.

Every case finally selected combined many of these criteria so that a particular student's story could be told in the context of the center's concern for quality education. The rationales used to select the cases provide some answers to the questions of the quality of GVRC's programs by establishing a range of students to be described, a range of program experiences to be analyzed, and a range of program outcomes to be considered.

Since the case study approach extends the analysis already begun by the faculty panel review, it is important to set forth how the faculty panel worked and to describe the dimensions of each student's program evaluated by the panel. Five faculty members were selected for the review panel and 35 student cases were initially selected for review. These cases were drawn from all entering students at Genesee Valley during fall 1980 who had either graduated or completed the assessment process. The panel read each student's file and made judgments about the quality of the student's degree program, contract work and assessment of prior learning. Research staff prepared a

checklist of questions which identified 15 dimensions of quality that guided the panel's review of students' documents (see Appendix A, Faculty Panel Review Report, 1984). Each student case was read by two panel members and discussed in detail raising questions needing further exploration. Panel members themselves interviewed twelve GVRC mentors regarding particular student cases and research staff completed interviews with other mentors. In addition, research staff interviewed fifteen students, other faculty mentors, and GVRC assessment staff and administrators to complete the picture of the students' cases. The sample of cases, thus selected, represent those students who successfully completed their programs and were not typical of all GVRC students entering during the same period. The six cases selected for this report, according to the criteria mentioned earlier, came from the 15 cases examined intensively during the faculty panel review.

The document questionnaire used by the faculty panel provided a common frame in which to review the actual cases as well as establish a basis for rating the quality of the academic work. The document questionnaire covered the topics of: student's educational goals, the integration, coherence and progression of study in the concentration, the breadth of the program, the amount of credit awarded, the adequacy of learning resources, the organizing framework for the concentration, the level and quality of student learning reflected in contract work, the adequacy of the student's communication skills, evidence of personal growth and change, the overall quality of the degree, and evidence of self-directed learning acquired by the student. The documents reviewed by the panel on each student included the degree program, pre-assessment worksheet, assessment checklist, assessment committee reports, general essay and portfolio, learning contracts and contract evaluations. Information obtained from the interviews with the student, one or more

mentors, and GVRC assessment and administrative staff were added to the document materials.

A five point scale was used by the faculty members to judge the quality of the students' learning and overall quality of students' degrees. The quality ratings included outstanding, adequate plus, adequate, inadequate and unacceptable. A sixth category, evidence lacking, was used in a few situations where the documents did not contain sufficient information for a judgment. The reader will find summary ratings in the cases that follow which convey the faculty members judgments about the quality of student learning achieved.

A section on general observations draws together certain themes that emerged from the individual cases. The final section presents six case studies which provide an intriguing look at some of the Genesee Valley students, the quality of their learning experiences at the center, and their experiences after graduation from ESC.

GENERAL OBSERVATIONS

The six case studies in this report illustrate in greater depth how the Genesee Valley Regional Center met students' educational goals as well as how these particular individuals challenged the academic program. Since the quest for quality remains a central theme at Genesee Valley, these case studies provide an unusual way to examine student learning and the center's search for quality education. The general observations offered here are of two kinds: those that illuminate how the center served diverse students and those that illustrate challenges to the quality of the academic program.

Serving Diverse Students: Meeting Educational, Vocational and Personal Goals

The six cases illustrate a diversity of backgrounds and varied goals students wished to pursue.* One student, Sue, was able to achieve a life long goal of a professional position with her degree in recreational studies. Louise and Shirley sought degrees in science and business areas and wanted to achieve professional positions and recognition in their respective fields. Both encountered resistance by their employers to their newly arrived educational status. Shirley reacted by establishing her own business, a longer range goal made shorter by necessity and her desire to prove herself able to launch a new venture. Louise traded job security and a certain independence for remaining in her position as a lab technician but is restless and is presently searching for a new career direction.

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*The student names used in the report are pseudonyms. To protect the confidentiality of students, faculty and others, research staff have changed names and altered, where necessary, particular situations, that might otherwise easily reveal the identify of the persons involved.

At mid-life, Tony was still searching for the right job after deciding that a career in corrections was not for him. Looking at job possibilities in counseling and teaching and thinking about moving away from his home town, Tony faced his future with a confidence and enthusiasm in large part derived from earning an ESC degree. In contrast, Ralph returned to ESC to earn a third degree, this time in computer information systems. He made a major career change and is now a satisfied microcomputer programmer with a leading computer firm in Texas. Betsy has reconciled her humanitarian values with her work as assistant city planner and has continued her voluntary activities in neighborhood preservation and local politics.

Panel reviewers found that the ESC degree programs designed for the six students were very successful (4 cases) or generally successful (2 cases) in meeting their educational goals. Panel reviewers were impressed with the degree to which center faculty met student educational interests as reflected in the students' general essays, degree program rationales, overall design of the programs, and assessment committee reports. As Shirley put it, "I got my education the way I wanted...no one prompted me or pushed me...I also began to think about the outside world--beyond my social circle and immediate experience." Collectively, these students were highly motivated, energetic, independent, and hard working. Correspondingly, Genesee Valley offered them program flexibility, personal attention from mentors, an individually designed degree program, and learning resources sufficient to earn the degree.

The Challenge of Full-Time Study and Quality Education

Shirley, Louise and Sue started their programs as half-time students but changed mid-way in their studies and completed their degrees as full-time students. Shirley and Louise held full-time jobs and Sue worked part-time. Both their mentors and the faculty panel judged the quality of their degree

programs and contract work as satisfactory plus or outstanding. Research staff analysis also supports the conclusion that these students were able to handle full-time study, heavy work responsibilities, and achieve a high level of academic performance in their contract learnings.

Given the current College interest in increasing the ratio of full-time students, it is important to examine the conditions under which these students were able to successfully handle full-time study. Not all students can successfully move from half-time to full-time study. All three students got off to a good start in their first contract. They developed an effective relationship with their mentors and they were highly motivated, committed to their educational goals, and willing to make changes in their daily schedules to handle their studies. Completion of the first contract was very important in overcoming initial fears about going to college and doing independent study. Shirley and Louise both held full-time jobs that provided opportunities to study during the work day. For example, Louise worked on the third shift at a hospital and was able to study at least three hours a night on ESC contracts. Furthermore, all three students were able to incorporate in at least one contract their academic studies and work responsibilities. Finally, as each student approached the end of her degree program, there was an extra incentive to finish the degree on a full-time basis. Because the end was within reach, these students were willing to sacrifice a lot more of their personal lives in order to complete their degrees.

When asked why she changed to full-time study, Sue said she "became anxious to get my degree completed and get a job using her learning and experience. To take advantage of career possibilities opening up, I switched to full-time for my last few contracts." Her mentor added. " Sue initially wanted to study full-time but her previous academic work was weak so I encouraged her to start half-time. Later, she convinced herself she could handle the academic work on a full-time basis."

What is illustrative in these three cases of women in their 30s seeking career advancement or change is that they were able to study on a full-time basis for several contracts without jeopardizing the quality of their education. In fact, the opposite may have occurred. By building upon their high motivation and integrating their work settings into contract learning, the educational effectiveness of their contract studies was enhanced. Given Genesee Valley's low full-time to part-time ratio (18:82) and given the large number of women students in the same age range with similar characteristics to the three cases analyzed, the center may be able to improve its full-time ratio by a careful focus on those half-time students who could change to full-time status during the course of their programs. What seems to be required somewhere near the mid-point of such students' programs at the College is for mentors and students to reassess the conditions under which the students are pursuing their degrees and carefully consider the advantages of full-time study, where appropriate, as a means to complete their degrees.

The other three cases (Ralph, Tony and Betsy) provide another set of conditions for analyzing the full-time study issue. All three individuals had previously held jobs but during their ESC enrollment they were unemployed. All three were involved in major career changes. For example, Ralph left a job in Texas as an apartment house maintenance man to return to Rochester, enroll at ESC with a concentration in computer information systems, and then return to Austin, Texas with a very good job as a microcomputer programmer. Betsy left a secretarial position at Kodak to pursue her degree and then obtained a job as an assistant city planner for Rochester. Tony was forced, by an automobile injury, to resign as a correction officer in Elmira and is presently seeking a new position in counseling or teaching. These three students were able to pursue their degrees full-time because their career changes were so important they were willing to sacrifice present income for

future occupational benefits. Both Ralph and Tony held part-time jobs during the latter part of their studies. Betsy used her savings and several loans to finance her education. These three students illustrate another cluster of individuals who can take advantage of full-time study because of the expected benefits of major career change, substantial prior learning credit, and no competing claims on their time from a work situation.

Achieving Educational, Vocational, and Personal Outcomes

All six cases demonstrate clearly what students learned (knowledge and skills) in particular subjects studied. The faculty panel evaluated the content and knowledge of the students' learning as satisfactory or better in all cases. Two students were considered high risk students with weak academic backgrounds; yet they overcame certain deficiencies and proved their ability to handle the demanding challenges of independent study well. We have already stated that the programs pursued by these students were judged by the faculty panel as qualitatively sound and as achieving students' educational goals. Vocationally, four of the six students (Sue, Betsy, Shirley, Ralph) had achieved their next career goal within a year after acquiring an ESC degree.

The panel review report discusses the outcomes and value-added approaches to assessing program quality (see "Panel Review of the GVRC Program," 1984, pp. 2-5). Clearly the judgments by the faculty review panel and the additional data collected by research staff support substantial gains in knowledge, skills, and behavior appropriate to the concentrations pursued and the present jobs held by these individuals. For example, panel members were impressed with the students' acquisition of writing skills, research skills, library skills, computer skills, analysis and synthesis skills. Since elements of the outcomes and value-added approaches were combined in the panel review and the detailed case studies, research staff conclude that the case

studies presented in this report provide ample evidence that the ESC program contributed very heavily to the individuals' educational and vocational achievements.

There is also evidence of considerable personal growth and development taking place among these students. In five cases (Tony, Sue, Shirley, Louise, Betsy), interviews with both the students and their mentors revealed these developmental outcomes: increased self-confidence and self-discipline; increased ability to handle independent study; increased motivation to tackle new subjects; new insights into the connections between one's own life and educational goals; increased satisfaction about the process of learning as a goal; increased ability to identify and use community resources; improved study habits and a desire to learn; enlarged perspectives and greater appreciation of intellectual activity; and greater satisfaction with working in a one-to-one relationship with a mentor. These very important developmental outcomes can be viewed as serendipitious consequences of the focus on cognitive learning and skill development; consequences that the center is fortunate to sponsor and sustain indirectly. In all six cases, the panel reviewers found that the students had acquired by the end of their programs the characteristics of a self-directed learner.

The Challenge of High Risk Students

Two students (Tony and Sue) came to the Genesee Valley center as high risk applicants. Tony did not complete high school (withdrew in the tenth grade), came from a working class family, and held numerous blue collar jobs for short periods before deciding that completing high school and entering college would give him an opportunity to advance himself. Sue had attended several colleges before but was not a serious student and had a poor academic record. Both Tony and Sue enrolled at ESC, were assigned mentors who provided

support for their introduction into the program, designed degree programs that fit their educational and personal goals, and successfully completed their studies at the Genesee Valley center. Although the panel reviewers rated the overall quality of these two students' programs as satisfactory and satisfactory plus, panel members were impressed with the quality of the degree programs designed, the special learning resources employed, the careful assessment reviews that occurred, and the amount and high level of learning achieved. The challenges posed to the faculty and to the Genesee Valley program by high risk students were met rather well by center faculty, assessment committees, and administrative staff. It is clear from the evidence in these two cases that Genesee Valley was able to provide quality programs that met well the students' educational goals.

The Challenge of Outstanding Students

Three students (Louise, Betsy, Ralph) were judged by the faculty review panel as having outstanding programs. These students came into Genesee Valley as highly motivated, energetic persons who challenged the faculty, center learning resources, and program opportunities of the center. For example, Ralph had already earned a bachelor's and master's degree, was seeking a major career change, and wanted to pursue his interests in the fast developing microcomputer programming field. Although the center had faculty interested in this area, the development of the center's resources in microcomputers was just being initiated when Ralph enrolled. With appropriate mentor advising, Ralph was able to design a unique and stimulating program in computer information systems, cross register for needed courses at nearby universities, and obtain an internship with a company where his programming abilities could be applied to real, practical problems. Ralph's case provides a useful illustration of how center faculty responded to the unique program goals of a

student as well as how sufficient learning resources were secured beyond the center to insure that the studies pursued would constitute a quality program for an outstanding student.

The Challenge of Providing Sufficient Resources

Three cases (Sue, Tony, Ralph) involved the challenge of providing special or unique learning resources for carrying out a quality program. We just discussed Ralph's need for special technical resources that in large part were obtained outside the center. In Sue's case, recreational studies was not a major area of interest for any faculty member at the center but Mary's mentor was able to find three tutors, including one outstanding tutor with whom she worked on numerous contracts. Securing high quality tutors in the recreational studies field and designing an integrated and coherent program with Sue was a challenge that the center and its faculty met unusually well. It is clear from examining these cases that the center demonstrated its capabilities to search out and acquire high quality resources for particular students' programs not otherwise available at the center.

The Challenge of Quality Assessment and Vocationally Defined Programs

Three students (Tony, Sue, Shirley) came to Genesee Valley with rather narrowly focused, vocationally defined educational goals and challenged the center's assessment process and faculty advising efforts. Tony came into the Alfred unit with rather fixed ideas of what constituted a criminal justice program and underwent considerable discussions with several faculty about the design of his program as well as four assessment committee reviews. The quality of Tony's final program and contract studies was considerably improved as a result. Additional liberal studies and general learnings were added to his program which broadened considerably his original proposal. Tony's case illustrates how the assessment process worked at Genesee Valley and some of

the difficulties that arose in the faculty advising effort which was complicated by the fact that Tony was enrolled at the Alfred unit necessitating long distance communications.

Panel reviewers were very impressed, not only in the way Tony's case was handled, but by the overall process and procedures of assessment that surfaced important issues of quality early in the formation of students' programs. The assessment process is analyzed at considerable length in the faculty panel review report (1984, pp. 7-14). The case studies presented here do provide specific contexts for the kinds of assessment questions raised with particular individuals. Since many students enter the College with rather definite educational goals, narrowly conceived and vocationally inspired, the challenge posed for the assessment process is to enlarge the students' vision and understanding of liberal education without negating their vocational and personal goals.

Maintaining the Creative Tension Between Student-Centeredness and Academic Quality

This case study report has presented the stories of six students who successfully pursued their degrees at the Genesee Valley Regional Center. The six students were selected to illustrate how their different educational, vocational, and personal goals could be achieved through individualized degree programs. The background characteristics, personal goals, and academic abilities of these students were diverse. They presented challenges to the center by their programs, by their full-time study, by the learning resources required for their programs, by the assessment questions raised, and by their working relations with center faculty and staff. Yet with all this diversity and difference, the faculty panel reviewers found the center responsive to individual needs and, at the same time, able to maintain academic standards that insured quality programs for each student.

The final challenge posed by these cases, then, is how the center maintains its commitments to student-centered education and simultaneously maintains a strong commitment to academic quality. How is it possible to individualize education and yet retain a common shared sense of quality programs for all students?

Often in higher education, a focus on quality and academic standards is narrowly or traditionally seen as incompatible or "in tension" with the idea of individualizing education or serving diverse student educational goals. This is not the situation at Genesee Valley.

The panel review analysis and the six cases reviewed here at length present rather dramatic illustrations of how the center and its faculty have met the twin challenges of individualizing education and maintaining or enhancing quality. Individual student goals and educational objectives were met well. Challenges to the GVRC program were handled by faculty and administrators in appropriate, and in some cases, creative ways. The focus on quality mentoring and adult learning which led to substantial value-added education permeates the stories of the six adults in this report. The quest for quality and the center's concern for learner-centered education have been well met in the cases studied.

In a fundamental sense, the twin challenges of individualizing education and continuing the quest for quality will never be answered; there will always be a creative tension needing a creative balance. The faculty and administration at the center are working collegially and pragmatically on that creative balance--making individual judgments required by the conditions of each individual student, yet searching for common principles and procedures that underlie those individual judgments which provide a quality education for all students in the program. The experiences of Sue, Louise, Tony, Betsy, Shirley and Ralph show how well the Center has been able to balance its quest for quality with the concern for student-centered education.

SUE

Sue had a life long goal of working in the recreation field and had worked for ten years in the field before she decided that a college degree would enhance her interests. At the time of entry to ESC, Sue could have been considered a high risk student because of prior low grades and motivation...but she proved herself to be a capable, enthusiastic, and persevering woman who turned around academically. Her personal and professional growth were exceptional. With the help of her mentor and three outstanding tutors in recreational studies, Sue completed a solid degree program which surprisingly resulted in a professional position in her chosen field immediately after graduation.

Sue felt trapped as a housewife, feeling that her goal in life "was to determine the best detergent for getting grass stains out!" As a thirty-five year old mother of two, the time was right for going back to college to gain the degree she never obtained earlier. She had first gone to college following high school and, in her own words, "I partied my way through several colleges and universities, doing well in courses I liked, and flunking those that I didn't."

Sue attended four colleges in five years, but was seldom a serious student. Despite her lack of success in gaining the most from her academic pursuits, her work experiences in the recreation department at Willard Psychiatric Center in Willard, New York during her summer vacations were especially rewarding. It was during those years that she realized what an important contribution was made through recreation programs for the mentally and physically handicapped. Sue started as a lifeguard and then moved into the wards, always working in some phase of recreation. After leaving college, she continued similar work at the Rochester Psychiatric Center and stayed there for the next three years. She left to raise a family.

After several years of being at home, Sue's interests were still the same. She became motivated at this point, and had a great desire to begin work toward a career in recreation. Although frightened at the prospect of going back to college and leery of the possibility of wasting money, she never-the-less enrolled at ESC. Her mentor encouraged her to start out as a part-time student because of her poor marks in earlier college studies. She was able to transfer eighty-six credits from the various colleges that she had attended (Maria Regina, Auburn Community College, SUNY at Cortland, and Monroe Community College). These educational experiences gave her a substantial foundation on which to build her degree program. Sue sought a BS in Community and Human Services, concentrating in Recreational Studies. She was able to focus on recreational studies in most of her eleven contracts at ESC because her liberal arts components were satisfied by her transcript credit.

Sue studied recreation organization and administration in her first contract. She read Therapeutic Recreation Services: Principles and Practice by R. Kraus; Public Administration of Recreational Services by George Hjelte; and Public Recreation Administration by Jesse Reynolds. Sue investigated the services and organizational patterns of therapeutic recreation. Her mentor said:

> Sue wrote an excellent research paper in which she addressed in a scholarly manner her findings relative to recreation... She articulated her comprehension of the administration of recreation and park programs including organization, personnel, management, legal responsibilities and operational policies. She developed a keen understanding of the principles of planning areas and facilities for recreation and parks. This, in effect, allowed her to examine and analyze many of the pressing issues that confront the recreation profession... Sue certainly deepened and expanded her knowledge of the topic studied.

After Sue's first two contracts were completed (her second contract was educational planning and career development), it was quite apparent to both student and mentor that Sue was a serious student who could handle college level work very well.

Since Sue was particularly interested in therapeutic recreation, many of her contracts dealt with different aspects of this topic. Sue's first and second contracts showed a gradual unfolding of her focus on the therapeutic aspects of recreation. Of the remaining nine contracts, six of them dealt directly with therapeutic recreation. The subjects she studied in the six contracts were: Principles and Theory of Therapeutic Recreation; Therapeutic Recreation for the Physically Handicapped and Aging; Art as Therapy; Behavioral and Program Assessment in Recreational Services; Therapeutic Recreation with the Developmentally Disabled; and finally, a Supervised Field Study. A common component in all of these contracts was dealing with special populations (i.e. stroke victims, developmentally disabled, long term care, psychiatric).

To illustrate what Sue accomplished, we shall discuss one contract that stands out as encompassing her collective learning in depth. In contract five, (Therapeutic Recreation for the Physically Handicapped and Aged) Sue studied various physically handicapping conditions and the implications for therapeutic recreation services for those within this special population. She read chapters dealing with the subject in the following texts: Peterson & Connelly, Characteristics of Special Populations; O'Morrow, Therapeutic Recreation--A Helping Profession; and Kraus, Therapeutic Recreation Service. Although this book was used in the first contract, she was not previously assigned the chapter on the physically handicapped. She did a written critique of her readings in Therapeutic Recreation--A Helping Profession and

discussed the other two readings. Sue chose to research the area of physical disability brought on by strokes. She reviewed the pertinent literature on the types, causes, resulting disabilities and current methods of treating strokes. She examined the programs at Monroe Community Hospital Rehabilitation Center, the Stroke Groups of the American Heart Association, and Rochester General Hospital. This learning experience was greatly enhanced by going to see the programs first hand. For this particular disability group, Sue wrote an indepth paper giving an overview of the disability and summing up the results of her agency program visits. She also included in this paper her philosophical rationale for the use of therapeutic recreation with stroke victims. She was able to draw together all of her learnings in this and previous contracts. Sue worked with a tutor on this contract who provided the following assessment:

> Sue has completed this contract very successfully. She demonstrated a good understanding of the use of therapeutic recreation with the physically ill and aged and a thorough knowledge of strokes and therapeutic recreation as a treatment modality for those affected with this disability.... Visiting three agencies demonstrated the services available (or unavailable) in the Rochester area. We discussed the strengths and weaknesses of the programs and Sue felt that going to see the programs greatly enhanced the learning experience.... Her enthusiasm for learning is contagious and she has grown greatly in her knowledge of therapeutic recreation through the college experience.

Locating appropriate learning resources to sustain Sue's program in recreational studies proved to be a challenge well met by Sue's mentor and the Rochester center. Sue's mentor worked with students in community and human services and had an educational background in social work, gerontology and counseling psychotherapy but did not know the field of recreation, especially therapeutic recreation. Finding competent tutors was a tribute to her mentor's resourcefulness as he was able to locate three different tutors with

appropriate backgrounds and experience for Sue's program. Sue worked with an art therapist and a counselor from the Monroe Developmental Center, both of whom had unusually good connections with other area institutions which enabled Sue to gain valuable field experience.

One particular tutor worked with Sue in seven out of the eleven contracts. This tutor was a top professional in her field holding the position of Director of Recreational Therapy at Monroe Community Hospital in Rochester. She had a Master's degree in therapeutic recreation from New York University. The faculty review panel raised a question as to why so much of Sue's contract work was done with this tutor. Her mentor replied: "This tutor had been used before with other students, had a well established reputation as an excellent person in the field, and had the professional competence to handle the topics selected for contract study." Rochester keeps a file on tutors so that different mentors can determine the value of a particular tutor's work. Research staff looked at the file on this particular tutor, and found that both students and faculty regarded the tutor as an excellent and highly competent practitioner. Sue found this tutor "to be an inspiration and a challenge. This tutor was the best educational experience I had at ESC." Since quality tutors in the recreation field are in short supply, the center was fortunate to find a person with strong academic credentials and a serious commitment to work carefully with ESC students.

Sue was also fortunate in working with her three tutors, not only because she made contacts with established networks, but also because she gained valuable field experience in a variety of recreational settings. These contacts led, in turn, to a surprising "occupational payoff" for Sue near the completion of her last contract. Sue's tutor in art therapy was so impressed with her ability that she put her in touch with a person who was instrumental

in helping Sue get a position as a recreation therapist in the Children's Unit at the Rochester Psychiatric Center. There is an interesting footnote to this success story because Sue returned as a professional to the same agency where she had worked as an aide after dropping out of college.

When the faculty review panel read Sue's entire academic file, the panel judged the quality of her degree program and contract work as adequate plus. In looking at more specific outcome areas, the panel judged her better than adequate in understanding the major theoretical concepts in her field of recreation; adequate in grasping the major methods of inquiry in her field of recreation; better than adequate in her comprehension in basic facts and special knowledge; adequate in her skill of synthesis and in the overall quality of student learning; and better than adequate in the overall quality of the contract evaluations written by her mentor and tutors. The panel agreed that Sue's degree program was meaningful and that there was no evidence of deficiency in her communication skills. They also agreed that the amount of credit given for her respective contracts was accurate and that the overall quality of the degree was more than satisfactory. Sue's personal growth and her acquired qualities as a self-directed learner were both deemed to be very positive.

When asked about the important benefits Sue gained at ESC, her mentor said:

> Sue received a solid academic experience; she worked with top professionals in the field. Her field experiences gave Sue ideas of what quality recreational programs look like. She deepened her intellectual horizons beyond the degree.

Sue's mentor rated the quality of her academic work as very good and stated that her ESC program was very successful in meeting her educational

goals. "It was a solid program design and her tutor contacts resulted in her being employed in her specialty right after graduation."

When Sue was asked what the most important benefit she obtained from her education, she replied:

> I got the feeling, I can do it! Empire State built up my self-esteem. Although I was scared at first, each contract built on the others, and I then realized I could do the work and do it well.

When asked what the greatest challenge posed by her program was, both Sue and her mentor replied the contract on research and statistics. She was commended by her mentor for her perseverance in completing this research contract. "This was a difficult contract for Sue as the mathematics and statistics were not familiar to her. She worked very hard to learn the concepts and also to overcome her perceived inadequacies in the area." Earlier in Sue's college career, she had failed math, but she proved that, as a mature and serious student, she was indeed able, in her mentor's words, "...to learn about and understand the basic concepts in statistics and also apply the learning to the recreation field." As Sue graphically put it, "I managed to claw may way through the work!"

Sue enrolled at ESC with many reservations about her ability to bridge the gap of the many years since she was a student. She was aware of her inadequacies in math but generally overcame the academic problems of her past. Sue's personal growth, as she proceeded through her studies, was exceptional. She started out as a very anxious but determined student who was methodical in her approach to studying. Sue's own maturity and motivation were the elements that had been missing in her earlier academic efforts. Success builds self-confidence; in Sue's case, it was the key that began to open doors. Her own personal growth was enhanced by her new self-confidence. In Sue's

educational planning contract, she read several books including: What to Do with the Rest of Your Life by Catalyst; Communication in the Counseling Relationship by Headington; Women's Guide to Management Success by Cannes; What Color is My Parachute? by Bolles; and the U.S. Department of Labor's Occupational Outlook Handbook. In her mentor's evaluation of this contract, he said:

> Sue has uniquely designed an academic program in which she will be provided professional preparation for a variety of careers in recreation through a core of theory and skill studies, interdisciplinary studies, including a work experience practicum in the student's specific interest area.

In Sue's third contract, she began to explore the field of Therapeutic Recreation and wrote a paper outlining her personal philosophy. This was also the first contract in which she worked with the tutor, Emily Smith. This was a very significant period of study for Sue, for it was the beginning of her focus on therapeutic recreation and the beginning of a relationship with this tutor who became, in essence, her real "mentor." This tutor not only was a "wise adviser" but also she was a professional role model for Sue. In Sue's last contract evaluation she did a supervised field study of a twenty-eight bed acute unit of Monroe Community Hospital. Sue was assigned to keep a journal of her experience in this field placement. Sue recorded the activities in which she participated and her feelings about the experience. Her tutor said:

> It is obvious from reading this journal, as well as from observing Sue's interactions with patients and staff, that she will be an asset to the profession. It has been my great pleasure to work with her on this and previous contracts and to see her grow to such a professional level.

At the end of her studies, Sue's own personal growth and her professional growth came together. Empire State College provided the academic context wherein Sue pursued her educational goals successfully. Sue achieved an academically respectable degree and acquired professional skills that led to an employment opportunity in her chosen field.

LOUISE

Louise wanted to go in two directions at once... she needed a degree for job security but she also wanted flexibility in considering new job possibilities. Louise had a strong science background and worked as a medical lab technician. She was highly independent and wanted a work situation that gave her maximum autonomy. Although reluctant to go back to college, Louise became an outstanding student. As a highly motivated full-time student who also worked full-time, Louise accepted the challenge of ESC's program and broadened her interests in health care and its relationship to society.

Louise needed a degree. She did not especially relish the thought of going back to college and had to search long and hard to establish her career goals. For ten years, Louise had been employed as a laboratory technician at a local hospital in Rochester, New York. When it became evident that she had to acquire a baccalaureate degree in order to maintain her job, Louise rebelled. She felt that she needed a better reason than that if she was to put her time and energy into a degree. She had ambivalent feelings about going back to college, about continuing her present health science work, and about pursuing new career directions in management or the arts. At thirty-two, going back to college was a commitment Louise reluctantly made, but once made, she became a diligent student.

Louise attended SUNY Agricultural and Technical College at Delhi after graduating from high school. She took courses in the sciences (i.e. chemistry, anatomy, microbiology, biochemistry and physiology) and also college mathematics. In 1968, Louise transferred to Monroe Community College, where she enrolled in a Medical Laboratory Technology program, continuing her focus in science. She completed her Associate's degree in 1970. For the next three years Louise continued to take courses at the University of Rochester

and Rochester Institute of Technology, some in science (genetics, immunohematology, organic chemistry) and some in liberal studies. By this time Louise had accumulated sixty transcript credits in science, math and technology alone and earned a G.P.A. of 2.74.

Louise enrolled at Empire State College in fall 1980. After working for ten years and being recently divorced, Louise was ready to think about her future but was very unsure what area of study she would pursue. She had interests in art and interior design, in health science, and in management.

Panel reviewers were puzzled by a statement made on her assessment checklist form referring to three people "struggling" to help Louise develop a sound concentration. Research staff asked Louise what this statement meant and learned how Louise struggled to define her program. She put an enormous amount of work into her degree program, essentially ending up with three different plans. At this point, her mentor advised Louise she would have to settle on one plan. Louise finally realized that she had to make a decision as to which area she would study. Given her practical goals and pressures from her job situation, Louise decided to build upon all her work completed in science and add a management component. As a result, she abandoned possible credits she had drawn out from her work experiences because she had 82 transcript credits. Her decision to concentrate on Health Science, building from her medical technology work, is described in the following paragraph taken from Louise's general essay which puts her decision in a broader societal context.

> In view of the fact that medicine is dynamically changing, I feel it is imperative not only to understand the background of present day medicine, but to foresee the future changes that will be taking precedence as a result of the advancements and shortcomings of today's practices. It is no secret that society is now, more than ever before, taking an active interest in health. This attitude can be witnessed in many areas, such as: health

> fitness centers, nutrition, environmental influences, political legislation, health insurance programs, legal problems including increased numbers of malpractice suits, societal problems including drug and alcohol abuse, child abuse, deviant mental behavior, economics and many more. The time has come for health institutions and society to confront the challenges that exist and will continue to occur. It is essential that we look at patients as individuals who have needs, concerns, problems and backgrounds which all play an active role in influencing their health conditions. We also have to re-evaluate our ability as health care professionals in providing answers and remedies for patients so that they might achieve and maintain proper health. In preparing myself for this challenge, I have decided to concentrate my academic efforts on the problems facing society relative to hospitals and health care personnel. One cannot effect a reasonable change in attitude or foresee future consequences if one does not make the effort to understand the background factors involved.

Louise was confident with her decision, feeling that the contract studies she had chosen would provide her with new knowledge to either advance in her present occupation or give her enough leverage to make a lateral move within the area of health care. Louise was very serious about preparing herself for the challenge of dealing with problems facing society relative to hospitals and health care personnel. She was concerned with patients' individual backgrounds which influenced their health conditions.

The review panel raised a question regarding the Center assessment committee report suggesting that Louise delete a reference to graduate study in her statement of educational purpose. The assessment report stated it was not clear that Louise's program would prepare her for graduate school, especially in business, since she did not have studies in calculus, statistics, accounting, and more economics. The review panel agreed that these studies would be appropriate for an M.B.A. but if Louise pursued a Master's in a health based program, then those studies might not be relevant. Louise did, however, delete any reference to graduate study from her statement of educational purpose on the degree program.

Louise completed eight contracts with six different mentors. Because her contracts, in fact, included all of her interests, we selected illustrative contracts that show her dominant work in health science, her emerging interests in management, and her elective choice in the arts. Part of Louise's third contract focused on the nation's health. She participated in a group study which "explored the health system and the role of medical care from historical, political, economic, and social viewpoints." She read The Role of Medicine by McKeown and The Nation's Health Reader, participated in group discussions, and prepared a critical book review and a research paper. Her mentor said:

> Louise's work is excellent and she demonstrates advanced-level comprehension of the many variables which impact upon systems of health delivery. Her review of Mendelsohn's Confessions of a Medical Heretic provided opportunity for examination of conflicts between science and ethics. Conclusions were carefully substantiated and well stated. In her research project, Louise explored hospitals' renewed interest in humanization and health education through a review of the literature and patient interviews. She is commended for her well focused and carefully developed exploration of the many components of hospital self-care education and for her analysis of several successful national programs. Of particular interest was her ability to inspect patients' perceptions of hospitals, varying degrees of patient education, patient needs for this service and hospital staff reaction. While no methods for behavior change were included, the student has offered viable suggestions for change and acknowledged thoroughly each barrier.

Louise's fourth and eighth contracts deal again with her concerns about the individual in today's medical world, focusing on legal, moral, and ethical problems. In her fourth contract, she was tutored by an attorney on the legal aspects of health care administration. She completed two research papers, one dealing with the mental hygiene laws of New York State and the other dealing with the Karen Ann Quinlan case. Louise's research took her to the New York State Supreme Court library in the Rochester Hall of Justice, the library at

Monroe Community College, and the Genesee Hospital. She read in Curran and Shapiro's Law of Medicine and Forensic Science, Warren's Problems in Hospital Law and Hoyt and Groeschel's Law of Hospital, Physician and Patient. Louise met with her tutor five times. Louise's investigation of the mental hygiene law of New York State was satisfactory. Her tutor blamed himself for not giving clear enough directions (this was his first tutorial) to Louise so that she might have examined in depth the questions of privacy and freedom versus the State's interest in maintaining the public health and welfare. He said, "Louise did show initiative in going to the law library to find the actual text of the law and certainly demonstrated an understanding of that statute." Louise's tutor commended the quality of her work in these terms:

> I was extremely impressed with the student's report on the Karen Ann Quinlan case. I assigned this case because it demonstrated the substantial complexity of the decision making process faced by hospitals and hospital staff every day. Such abstract questions as 'What is death?' and 'Does a person have a right to die?' become practical dilemmas when faced by the hospital practitioner. The student found that Ms. Quinlan's case raised not only legal questions, but also moral and ethical questions to be decided by each person involved. The doctors in that case feared both malpractice claims as well as possible criminal charges in the event they discontinued the life support systems of the patient. The patient's family faced the moral and ethical problems associated with making a decision as to when a family member had suffered enough. Overall, this student's analysis and perceptions were excellent.
>
> In conclusion, Louise has completed this study at an excellent advanced level of achievement. She had demonstrated logical, analytical and research skills superior to most students in their fourth year of college. I am very pleased with her accomplishments during this tutorial.

Louise's eighth contract was in applied social ethics. This contract states Louise's main concern very well:

> Louise is concerned about lack of humanistic care and idealism within the health professions. She perceives

> that medicine has not necessarily made people healthier and happier and realizes that increasing use of technology has introduced dilemmas and issues for which no answer appears "right."

Louise read Case Studies in Medical Ethics by Veatch, two chapters in Equality and Preferential Treatment by Cohen, Nagel and Scanlon, and Ethics by Frankena. She developed two short, argumentative papers on "Sterilization of the Mentally Retarded: A Decision for the Courts" and "Preferential Hiring." She also prepared an eighteen page referenced paper on confidentiality of medical record information. Her mentor said that Louise's work is:

> ...of excellent quality and she is to be commended for her conscientious efforts to develop comprehension of the function and authenticity of rules and of the role of principles (justice, non-malefience, beneficence, autonomy) in forming decisions. Her written work is well organized, carefully referenced, and clearly expressed and the arguments presented in the papers indicate increasing ability to identify issues, reflect on consequences of judgments and decisions and to probe ever more deeply into questions of right; moral duty; rules; justice and obligation.

When research staff interviewed the mentor about the contract on medical ethics, the mentor provided some additional comments:

> This student went from glib to reflective dialogue by the end of the contract. Although the student felt the topic was difficult, she worked very hard. This topic raised serious questions about moral situations and challenged her judgments which stemmed from earlier family, religious training, and the education she received. This was a conceptual, not a factual contract, and posed real challenges for the student's previously held beliefs.

Louise described her relationship to her mentor on the same contract in these terms:

> My mentor always made me dig deeper into the materials. My mentor and I argued about the issues, often shifting sides in the argument, and she really forced me to think. My mentor exhibits the type of enthusiasm that is really important. I had an educationally effective and personally satisfying relationship with her.

In the management area, Louise started with managerial psychology. She read Managerial Psychology by Leavitt and Behavior in Organizations by Coffey, Athos and Reynolds. She wrote narrative answers to selected questions at the end of each chapter in the Leavitt text and wrote answers to four cases taken from Drucker's Management Cases.

Her mentor praised her work saying:

> ...her answers to the discussion questions and case studies were accurate and demonstrated insight and a high level of understanding. She had little difficulty in comprehending the concepts, principles and ideas of others; expressing them in her own words and seeing their practical application. In discussions with the mentor it was obvious that she could speak intelligently on a wide variety of managerial psychology topics. As her knowledge of the subject broadened she became increasingly aware of the differences between textbook theory and workplace reality. Louise was cooperative, receptive to constructive suggestions and needed no "spurring" to complete the contract.

Louise continued her study in the management area by reading the text, Personnel Management by Chruden and Sherman, prepared written answers to chapter questions, and did three case studies. She also read materials provided by the mentor and six articles in professional journals on the subject of employee selection and wrote summaries of each. Her mentor found that she:

> ...was able to relate much of what she read to her own experience and had a good understanding of underlying concepts and principles and their practical application. Her answers to discussion questions were highly accurate and her article summaries were well written. Louise is a highly motivated young woman who undertook the contract in a businesslike manner and made short work of it.

Louise's seventh contract provided an interesting contrast and change of pace from studies of health science and management. She studied poetry,

writing more than a dozen poems. She read poems by Lawrence Ferlenghetti, Emily Dickinson, Allen Ginzberg, Robert Frost and Carl Sandburg. Her mentor wrote the following evaluation:

> The quality of her poetry varied according to the subject matter she chose. When she wrote of typically "poetic" subjects, such as love and beauty, her poems were weak, tending to be superficial and overly clever; when she more precisely focused the subject matter of a poem, as with one about taking photographs of nature, she also more precisely focused her use of language, particularly of imagery. Thus, her worst poems were high schoolish, her best tight and neatly tied packages of carefully chosen words.
>
> A common element in her best poetry, and one almost completely lacking in her worst, was a negative tone. She seemed to be best able to understand her feelings toward a subject if those feelings were negative. One of her best poems exhibits a disgust with a woman who uses too much makeup; another is a sarcastic lecture to a young man who joins the army. Conversely, what is probably her worst poem written for this contract is a highly positive, a sophomoric look at being in love.
>
> Louise, toward the end of this contract, displayed considerable growth as a poet. Her final poems show promise of even better poems to come.
>
> This contract study did not in any way focus on technical aspects of poetry, and was not intended to, but Louise is urged to pursue such studies on her own as way of channeling her considerable natural talents in the genre.

Louise gained an enormous benefit from her struggle to decide which of three different degree programs to pursue. By taking the time to put these different programs together, Louise gained a great deal of insight into her own life and her educational goals. Her final degree program allowed her to include all three of her major interests.

In looking at Louise's degree program and contract learning, the panel judged the overall quality of her work as outstanding. The panel judged all areas of her contract learning as outstanding: understanding of theoretical concepts, major methods of inquiry, comprehension of basic facts and specific

knowledge, demonstration of synthesis skills and her overall learning gained from contract study. The panel thus confirmed what Louise's mentors had said in the specific contract evaluations discussed earlier. When research staff interviewed Louise and her mentors to obtain their judgments about the quality of this program, the following comprehensive picture emerged:

Raters	Rating Overall Quality of Academic Work	Rating quality of Academic Work in Specific Contract	ESC Program Meeting Student's Educational Goals
Panel	- Outstanding	Outstanding	Very Successful
Mentor 1	- Outstanding	Outstanding	Very Successful
Mentor 2	- Outstanding	Satisfactory Plus	Very Successful
Student	- Satisfactory Plus	Satisfactory Plus	Very Successful

Although Louise was more conservative in her ratings of her academic work, Louise, her mentors, and the panel concurred that ESC's program was very successful in meeting her educational goals.

When Louise was asked what the most important benefit she obtained from her ESC education, she replied: "Getting the degree; the piece of paper was important!" Her mentor said: "Louise gained a great deal of insight into her own life and educational goals. She proved to herself she could do it; her ability to engage in intellectual studies opened her eyes; she expanded her knowledge and perspective beyond the lab technician focus."

When asked what the greatest challenge was for her, Louise responded:

> Learning how to study on your own and schedule things to get work completed. ESC requires extensive initiative; if you don't have it, you can't proceed there. A student must be self-propelled; otherwise, you are overwhelmed. Others I work with admitted they could not handle ESC's program of independent study; they would rather sit in classes and take multiple choice tests. As an ESC student, you must force yourself to go to the library and the clock is always running. My mentor really did try to hold my interest and was very helpful in putting together my degree program.

Louise's mentor replied to the same question with the comment. "The greatest challenge for Louise was to move away from clinical lab studies and to read in areas she had not pursued before."

What is Louise doing now? Research staff talked to her nine months after she had graduated from ESC. She was still working on the third shift as a lab technician in the same hospital. At the time we called, however, she was "back in the library doing career research. It's time for me to move beyond my present work situation." Although she prefers the third shift at the hospital since it gives her freedom and she is her own boss, there is no way she can move into a management position at the hospital because the "clinical director has told her he wants only men under him in management." So Louise has come to another transition point in her life where she is considering her options. ESC helped open up the range of options for her to consider.

TONY

Learning Through Adversity

Tony came to ESC as a high risk student. From a working class background with only a 10th grade education, Tony pursued numerous blue collar jobs without much success. Later, as a correction officer for eight years, Tony seemed to be on the verge of a stable career when adversity struck again. Tony turned to education as a way to overcome his previous life circumstances and pursued his goals with a dogged determination. As a full-time student Tony's program in criminal justice challenged GVRC's concern with quality in terms of the definition of his degree, the assessment review process, the student-mentor relationship, and the relationship of the Alfred unit to the Rochester center. At mid-life, Tony had successfully completed his bachelor's degree and faced the second half of his life with renewed self-confidence and a broader outlook on his future.

Tony wrote a fascinating and extensive autobiographical essay which provided the main themes for the case study. Because his general essay provides such an important background to understand Tony's eventual commitment to education, we shall draw upon it extensively in setting the context for his work at ESC.

Tony grew up in a traditional Italian family in Elmira, New York. His father was a factory worker with a grammar school education and his mother had some high school education. Tony was one of eight children (three brothers and four sisters) who became known during Tony's teenage years as the "Youngest Professional Harmonizing Octette in the United States." When Tony was 15, the family singing group had an opportunity to be reviewed for a national TV show. A talent scout for the Ed Sullivan Show rejected their act and Tony blamed himself for the failure of his family to become famous. For the next two years Tony stayed in Elmira and got into trouble. After one

fighting incident, Tony found himself sitting in police headquarters, and as he says, "getting my farewell from the Chief of Police. His alternatives were simple. Service or cell! He told me that if I was going to act like a bad guy then I would have to live like one. For the first time in my life, I started to take someone serious."

At age 17, Tony had been expelled from high school (10th grade), had been rejected by his family and friends, and was told by the police chief to leave town. He said he was "ready to take on the world," and so Tony joined the Marine Corps. Challenging the drill instructors proved to be a turning point at boot camp. He spent ten days in the "brig" scrubbing floors and began to trade in some of his youthful cockiness for the discipline of the service. For the rest of Tony's four years in the Marines, he decided to keep his record clean. Near the end of his enlistment, Tony began to think about his future, and recognized that he lacked a high school education.

> Four months prior to my discharge, I decided to take a high school equivalency examination. It really was a disaster! I took all of the tests and I failed all of the tests! It isn't nice to use the word stupid, but that is how I felt. Most of the guys who took the tests with me had passed them with no problem. It was very embarrassing walking out of the barracks and hearing everyone laughing about my batting a thousand. The joke was on me and I was getting what I deserved, but I had broad shoulders and I could take it. I had no other choice! One month before my discharge, my life started to change. I met a girl who not only had a lot of class but also was very understanding and easy to talk to (General Essay, 1981, p.4).

Although Tony had managed to complete his service years with the Marine Corps with a good record and some stability, he faced a future without a clear set of goals and much uncertainty. He had failed again to earn a high school education; he was jobless; and his family had not welcomed him home. Tony had found a girl he married three months after being discharged from the service The girl's parents, however, did not approve of Tony or the marriage.

Returning home to Elmira, Tony found a job as a stock clerk for a plumbing and heating company and his wife started work as a secretary. In six months, however, Tony quit his job. He wrote, "I quit because I was basically lazy and still irresponsible. Little did I realize at the time that holding onto a job would be like nailing jello to a wall."

Occupationally, Tony was having great difficulty obtaining and holding on to meaningful jobs. He held a series of short term jobs: as a truck driver for a tobacco company, as a route salesman delivering bread to stores, as a house-to-house bread salesman for two different bakeries, as a laundry truck driver for two different companies and as a carton stapler. During this period, Tony held nine different jobs which served to reinforce his need for more education and his need to avoid jobs which embarrassed him by bringing him into contact with former high school friends he felt were more successful with their lives.

At age 26 Tony described his situation:

> My life was miserable and so was I. I had a wife and two children, no job, no education, no respectability, debts, no direction and no goals. Even though I was feeling sorry for myself and not doing anything about my life, my wife was still very supportive and encouraging to me. I had become arrogant, bitter, disgusted and depressed. I had only myself to blame! (General Essay, 1981, p.7)

Tony's wife was a very important source of stability and hope during this period. She inspired Tony to keep trying and her love and support balanced off the uprootedness of Tony's search for meaningful employment.

Six months later, Tony entered the Elmira High School's night program to prepare for the high school equivalency degree. After taking classes and studying hard, Tony surprised himself by passing all five examinations he had failed in the service. "At least now with a high school diploma, I had a beginning and also a little incentive."

This little incentive led to Tony's taking a civil service examination for a position of correction officer the following month; again he passed the test and later the physical exam. At age 27, Tony was appointed a correction officer at the Ossining Correctional Facility and he reported on his changed life circumstances.

> In a matter of a few short months, I had doubled my salary, I was working for the Department of Corrections, furthered my education and I had also gained respectability. For the first time in my life, I had started to set goals for myself and most important, I was feeling good inside and I was believing in myself as well (General Essay, 1981, p.8).

One year later, at age 28, Tony was transferred to the Elmira Correctional Facility and moved his family into their first home in a nearby community. By then Tony was thinking about education in a more serious way and considered as his next goal attending night school at Elmira College. Reflecting on this phase of his life, Tony wrote:

> My decision to finish high school was a very significant turning point in my life, Between 1970 and 1972, I had accomplished more than I had accomplished at any other time in my life. I was learning more and more about myself as well. My job experiences, prior to my appointment as a correction officer, were frustrating and certainly not rewarding. I have looked back on those jobs and I did learn that I had to live with people and treat them with respect instead of spite and envy, and I learned to motivate myself to the point where I had become very organized and conscientious. My goals were expanding and growing (General Essay, 1981, p.9).

At age 34, however, adversity struck Tony again. Tony was seriously injured in an automobile accident necessitating long months of rehabilitation. More than a year later, it became clear that Tony would be unable to return to work as a correction officer and he was forced to resign his job. This unfortunate event forced Tony to reconsider his immediate goals and future aspirations. In June 1978, he decided to further his education in the

criminal justice field by enrolling at Corning Community College. By studying full-time and taking several courses by examination, Tony earned an associate's degree in 1980. Tony did well in the criminal justice courses focusing on police operations, firearms, criminal procedure, and criminal investigation but encountered difficulty with freshman English and social science subjects, earning a 2.48 GPA by the time of graduation. What is significant about Tony's enrolling in a community college was his success. Faced with an uncertain occupational future, Tony saw a college education as a major way to improve his life and he pursued a criminal justice program as a way to overcome his work situation. Bouyed by his educational achievements, Tony, at age 37, decided to pursue a bachelor's degree at the Alfred unit of Empire State College.

In reviewing Tony's early years, we have seen how he returned several times to education as a way to overcome his job adversities and to move himself forward to a more satisfying life. We now want to explore in some detail Tony's educational goals, his degree program and the challenges his case presented to the Genesee Valley Regional Center.

Tony's Educational Goals

By the time Tony entered Empire State College, he had become convinced that a college education was the key to his future. Although recovered from his automobile accident and having earned an associate degree in criminal justice from a community college, Tony could not obtain the kind of position he desired without a college degree. Therefore, Tony decided he needed a bachelor's degree in order to "broaden his opportunities for advancement in the criminal justice field and in order to function at a higher level of responsibility." He designed a degree program to strengthen his overall knowledge and abilities in the field of corrections with the hope of

continuing his career at a higher level at the Elmira Correctional Facility or a similar institution. In his admissions application, Tony also expressed a strong interest in guidance counseling which he continued to hold throughout his contract learning.

Shaping the Degree Program

Tony's approved degree program in Community and Human Services with a concentration in Criminal Justice included 55 credits from Corning Community College (11 courses and 34 credits in police science) and 19 credits by evaluation from the New York State Department of Corrections, from CETA and from being a local basketball coach (recreation management). To complete his degree, Tony took eight contracts in the broader aspects of criminal justice and the social sciences.

Tony underwent a lengthy and difficult degree program and portfolio review process (e.g. four assessment committee reviews) before his program was finally approved. During the course of this review process, major issues concerning the components and nature of a criminal justice program, Tony's educational goals and appropriate mentor advice, and the relation of the Alfred unit to the Rochester center surfaced. Resolving these issues took considerable discussion and affected, as we shall see, the overall quality of Tony's degree.

Tony's first proposal (November 1980) requested 58 credits from Corning and 22 credits by evaluation (total advanced standing of 80 credits) with learning contracts covering the topics of criminology, court procedures and practices of the adjudication process, juvenile justice systems, overview and evaluation of the correctional system, sociology and psychology of crime, organizational theory of criminal justice, educational planning, Spanish, and techniques of counseling. In putting together this proposal, Tony had drawn heavily upon the advise of a professor at Corning Community College (who was

chair of the criminal justice program) for his definition of the criminal justice field and for what constituted appropriate topics of study.

In working with the mentor-coordinator at Alfred, whose background was in business not criminal justice, Tony studied criminology in his first full-time contract using the same professor mentioned above as a tutor, thereby reinforcing a particular view of the criminal justice field. In his second contract, Tony worked under the guidance of a second mentor at Alfred who initiated him into the educational planning process and helped Tony prepare his proposal. This mentor characterized the first meeting with Tony as one where Tony "came in and plopped down on my desk all the learning contracts he needed for a degree along with syllabi for each contract made up by the community college professor. Tony had a whole set of curricular ideas that were not thought through at all and he was ready to exploit opportunities at ESC for a degree. When advised that he would have to work out a degree proposal somewhat differently, Tony reacted negatively "saying he was ready to quit." After several lengthy discussions, Tony's mentor was able to keep him working on the first two contracts so he could obtain a better understanding of what Empire State could offer.

When the GVRC assessment committee reviewed Tony's proposal, it declined to give approval, raising questions about the breadth of the degree, the amount of advanced level credits, the liberal content of some studies, and the possibility of credit overlap among certain studies.

> Learnings presented for credit such as Firearms, Criminal Procedure Law, Police Administration, Procedures and Practices of Correctional Systems, and Method and Conduct of Riot Control are not normally considered advanced level studies. Therefore, to meet the SUNY guideline of 45 advanced level credits for a B.P.S. degree, you will need to add at least 5 credits of advanced level contract work to your program. The committee suggests that you consider work in Contemporary American History or Public Policy in Human Services and Criminal Justice, as these seem to be

> areas where your program is weak. (See enclosed copy of Curriculum Guidelines in Community and Human Services concentrations and for Criminal Justice Programs.) In planning such study, however, you will need to discuss with your mentor whether you should first do some basic work in History or Public Policy so that you can pursue the studies suggested at an advanced level.
>
> Many of the studies listed as liberal on your pre-assessment worksheet seem questionable. Please discuss this with your mentor to see if you have, in fact, included enough liberal work in your program for the B.P.S. degree. The credits recommended in history or public policy studies could be liberal and thus could strengthen this aspect of your program.
>
> There appears to be some overlap in your program between Counseling and Motivation and Techniques of Counseling, between Criminology and Sociology and Psychology of Crime, and between the various credit by evaluation and contract studies in Correctional Systems. It is important that you plan your work so that each contract builds on prior learnings and avoids redundancy. If you feel that some of these studies are not overlapping, you might explain this in your general essay (GVRC, Assessment Committee Report, 12/9/80).

Tony was one of six students who had attended Corning Community College and were enrolled at Alfred seeking a B.P.S. degree in Criminal Justice. As a result of Tony's degree proposal and the anticipation of similar ones from other Alfred students, GVRC faculty continued to discuss the issues posed in Tony's plan, leading eventually to what is now called the Dixon/Seidel memorandum. Because of the importance of Tony's case in defining more clearly the faculty's view of appropriate criminal justice programs, we restate here the most relevant paragraphs:

> When concentrations in Criminal Justice fall within the Community and Human Services area of study, students should be sure that their proposals contain work in theory, history, and practice as suggested by the College's curricular guidelines. In the case of <u>theory</u>, the guidelines call for studies in relevant academic disciplines such as psychology, sociology, and political science; and for the study of policy issues, especially how public policy works within agencies, local communities, and on the state and national level. In

> terms of history, the guidelines call for examination of human service professions in relation to the rest of society, either by means of historical approaches or through case studies. In terms of practice, the guidelines recommend direct service skills such as counseling, interviewing, advocacy, program assessment and evaluation, and the demonstration of knowledge of how to work effectively in service delivery networks....
>
> As a result of continuing discussions about curricular guidelines and degree program planning, the faculty of the Genesee Valley Regional Center does not view concentrations in "police science" or "police techniques" as appropriate for baccalaureate studies. Of course, the Center accepts the inclusion of associate's level studies in these fields as a base on which bachelor's degrees can be built. Nonetheless, the faculty is impressed with the arguments of the National Advisory Commission on Higher Education for police officers (see Lawrence W. Sherman, et. al., The Quality of Police Education, 1978). The Commission recommends that collegiate education in criminal justice and police science be of the best quality possible and that it acquaint students with concepts, disciplines and problems from a wide range of liberal studies as well as from the social sciences. In the Commission's view, academics from a broad range of humanistic studies should be involved in the collegiate training of students in criminal justice, not simply police officers or former police officers.
>
> Technical studies included within Empire State degree programs--topics such as investigation and criminalistics--must pass the tests appropriate if they are to be considered advanced-level. That is, they must demonstrate movement beyond introductory college level and must demonstrate growth in sophistication of the learning involved. The demonstration of analogous studies offered at accredited institutions of higher education in the United States is helpful for the College in making decisions; but ultimately, in each case the College must exercise its best academic judgment in reviewing proposed studies in the context of a student's entire degree program proposal (Dixon/Seidel memo, 11/26/80).

In sending back Tony's degree proposal, the faculty at GVRC were making an academic judgment about the study components and level of work acceptable in a criminal justice program. Tony and his mentor engaged in lengthy discussion over the next several months regarding what kinds of studies were appropriate to his educational goals and degree plans. Initially, Tony was angry and frustrated by the assessment committee discussion. Tony felt his

former professor at Corning was an expert in criminal justice and, if he said certain studies were acceptable, why did Empire State say they were not? Furthermore, "if his mentor and tutors do not know what is advanced level study, how does Empire State expect the student to know?" If he and his mentor worked on a proposal but it can be challenged in Rochester, then there is a "lot of slippage!" Tony felt his mentor had "gone out of his way to get expertise but was undermined by Rochester's rejection of liberal studies and advanced level topics in his program." Yet Tony and his mentor did change the degree proposal. Tony added contracts in Contemporary American History: American Since World War II and Public Policy in Criminal Justice, reduced six credits by evaluation from the first proposal, deleted criminology as a topic of study because of the overlap question, and retitled his study--Spanish for Law Enforcement Personnel.

In a second assessment committee review (February 1981), the committee commended Tony for a constructive response to earlier committee advice and praised the inclusion of "substantial study in Spanish as an appropriate supporting general learning." Yet the committee did not approve Tony's proposal, raised again a question on the advanced-level designation of police science courses taken at Corning and offered one final observation about the degree plan.

> Even with the rethinking you have done for this proposal, your program does remain fairly narrow in design. Your degree program should, of course, support your future goals; and if those goals should include work in probation, rehabilitation or a position at a much higher level than your present setting, then you really ought to consider some further broadening of your program. You might give some thought to studies in Social Problems (dealing with broader views of aging, sex roles, alcoholism, and so on); and you would certainly be well advised to consider additional studies in Psychology (like deviance, abnormal, developmental). The Committee does not require these additions, but we suggest them for your consideration (Assessment Committee Report, 2/17/81).

Once again Tony reacted to the committee's decision with anger and frustration. He worked, however, with his mentor and decided to respond with further proposal changes. Tony added contracts on gerontology and aspects of alcoholism, reintroduced the topic of criminology, deleted public policy in criminal justice, and reduced Spanish for law enforcement personnel from eight to three credits. In reflecting on all these changes and reviews, Tony's mentor said that because Tony was a full-time student who was "racing ahead from contract to contract (by this time he was on contract #4), there was not sufficient time to develop a clear concept of the degree program. "There was a growing problem between contract topics being accepted and completed while the degree program was still shifting around from one committee review to the next."

The third assessment committee to review Tony's program (March 1981) again noted that Tony worked conscientiously with his mentor to make further improvements and encouraged him to complete the development of the portfolio, including updating the general essay with explanations of what the contract studies will contain. The committee saw no need for Tony to submit another revised degree program but did note two major points of concern.

> The Committee is not quite sure of what you intend the precise content of your contract in Theories of Techniques of Counseling to be. You should be aware that if this contract is to be counted as a liberal study to meet your requirement, it will need to be primarily focused on theories; if it focuses more on techniques, it would be considered an applied, rather than a liberal study.
>
> The Committee also is not sure what your title Psychology and Sociology: Aspects of Crime means. Will this study be substantially different from your contract in Criminology? You may recall that this question was raised about the first degree program you submitted, after which Criminology was deleted on your second submission; but now it appears again. The Committee was sorry to see that you had deleted the contract in Public Policy included on your second submission, and the Committee suggests that you

> substitute the study in Public Policy for the one in Criminology, which may be redundant (Assessment Committee Report 3/17/81).

Once again, Tony returned to his mentor to reassess his degree proposal and once again, Tony changed his degree plan by including Public Policy in Criminal Justice, a statement from his mentor supporting three credits in English Composition based on Tony's writing ability reflected in the portfolio to offset a D grade received at Corning, and additional evaluations to support Tony's credit request from various work experiences.

When the fourth assessment committee met (July 1981), it approved Tony's degree program and recommended 74 credits of advanced standing. The Committee commended Tony particularly on the seriousness and thoughtfulness of his portfolio essays and was happy to receive further clarification about his contract studies.

The preceding discussion illustrates how the assessment process works at GVRC. This case also illustrates how the center faculty and the assistant dean for assessment struggled over issues about the quality of the degree program yet tried to be responsive to Tony's educational goals and the advice he was receiving. Although Tony went through what seemed to the faculty panel an excessive number of assessment committee reviews and although the entire process seemed to be lengthy and complicated, the faculty panel found that the final degree program and portfolio was much stronger and met more satisfactorily major questions raised about the first degree proposal submitted. From Tony's point of view, the assessment process may have seemed like an endless learning through adversity. Tony's persistence and commitment to getting an education, with the support of his mentor, helped him work through the challenges posed by the assessment committees.

Several issues concerning the quality of Tony's degree surfaced in this review and need further discussion. First, what is the conception of a criminal justice program? Tony entered the College with a clear set of educational goals, a community college degree in criminal justice, work experience in the corrections field, and ideas and advice from a valued professor of criminal justice at the local community college. Tony entered the Alfred unit and worked with two mentors, neither of whom had background in criminal justice. Starting with a narrow and restrictive "police science" conception of a criminal justice degree, Tony and his Alfred mentors had to seek out advice, interpret curricular guidelines, and obtain from Rochester further guidance regarding the nature and scope of a baccalaureate degree in criminal justice. A slow educational process ensued as Tony and his mentors began to shape his degree proposals and incorporate more liberal and social science studies into his program. In the end, Tony had a deeper understanding of what constitutes advanced level study and why humanistic and social science studies are appropriate to a degree in criminal justice.

Tony's case also illustrates how quality concerns can be affected by the unit-center relationship. The Alfred unit is located some 80 miles south of Rochester. Most communication between students, the unit and Rochester occurs by phone or by mail. Because of the questions raised about Tony's degree proposals, numerous conversations were held between Tony and his mentor, between his mentor and the mentor-coordinator at Alfred, and between his mentor, the Alfred mentor-coordinator and the assistant dean for assessment and faculty in Rochester. Although these conversations generally moved issues toward a resolution, they involved a number of people who spent considerable time and energy at long distance. For example, after the assistant dean reviewed CBE evaluations provided by two outside experts, she thought further specification was needed regarding the nature of the learning and the criteria

used for recommending credit. Therefore, she called both evaluators extracting this information and wrote supporting materials one day prior to the fourth assessment committee's meeting date. Because Tony was a full-time student, his mentor felt under great pressure to get the degree program ready while he struggled to keep up with each new learning contract. Tony received final approval from the Center's assessment committee three-fourths of the way through his program.

In the intense efforts to "get the job done" Tony, his mentor, and the Rochester assessment office did not sacrifice important positions that would jeopardize the quality of his program. In fact, just the reverse happened. The combined efforts of all the individuals directly involved improved Tony's program substantially. Resolving the issues in Tony's case had an important effect of drawing the Alfred unit and its faculty into a closer working relationship with the Rochester center.

Learning Contract Studies

Tony completed eight contracts earning 54 credits covering the topics of criminology, psychology and sociology: aspects of crime, educational planning, contemporary American history since World War II, theory and techniques of counseling, organizational theory of criminal justice, aspects of alcoholism, gerontology, public policy in criminal justice, and Spanish for law enforcement personnel. The faculty panel reviewing Tony's contract evaluations judged his learning as follows: adequate understanding of the theoretical concepts in the concentration; adequate comprehension of the basic facts and specific knowledge in criminal justice; adequate demonstration of synthesis skills, and adequate overall quality of student learning. Panel reviewers checked "evidence lacking" on methods of inquiry in the evaluations and rated the overall quality of evaluations prepared by mentors as adequate.

We have selected three contracts to illustrate the quality of Tony's work and to illustrate the kinds of studies introduced into his program as recommended by the assessment review committees. Contract four was an eight credit full-time study of the theory and techniques of counseling.

Tony read The Skilled Helper by Gerald Egan and Exercises in Helping Skills by Egan to expand his knowledge of counseling techniques. Tony was to submit a resource paper consisting of at least 15 pages summarizing the important stages and concepts from The Skilled Helper and was to complete all the exercises in the work book. Tony was also expected to submit a research paper on psychoanalytic, transactional and self counseling theories. A tutor was hired to work with Tony. His resource paper was to be evaluated in terms of the thoroughness of the research and a demonstrated understanding of the concepts. The exercise manual was to be evaluated in terms of completeness and correctness of responses. In addition, the student was to demonstrate the acquisition of helping skills such as primary level accurate empathy, confrontation immediacy, and parrotting. The research paper on counseling theories was to be evaluated on the thoroughness of research, theoretical content, student understanding of concepts, and the student's knowledge of the practical applications of the theories.

The evaluation of Tony's work was stated in these terms:

> Tony has successfully completed the above stated contract. The second half of Tony's contract was rejected by the tutor when it was first submitted. However, Tony willingly accepted criticism and suggestions and resubmitted the contract with the necessary corrections and additions. The completed contract was very well done and the student demonstrated understanding and analytical ability while interpreting various theories of counseling.

While Tony may have learned what was set forth in the contract, the panel reviewers thought the written evaluation was weak. It did not address

substantially what Tony had learned with convincing details. The contract identified specific helping skills to be learned and concrete criteria for judging Tony's research papers; yet those skills and criteria were not addressed in the evaluation.

Contract number five was designed to give Tony an overview of alcoholism as a disease and the methods used to treat it. Tony worked under the direction of a qualified tutor who was a counselor at the Allegany Area Council of Alcoholism and Substance Abuse. Tony examined the disease of alcoholism and how it can be diagnosed by looking at physical, psychological, social, financial, family, legal and spiritual symptoms. Tony focused on alcoholism as it affects the family, techniques of intervention and the kinds of professional treatment available. Specific questions were posed for Tony to answer in several short papers which were to be evaluated on the basis of completeness, accuracy, and understanding of the issues.

The tutor provided this evaluation of Tony's work:

> The student was given ten books and pamphlets which the tutor found contained all the information necessary to complete the assignments, along with a large number of related booklets. A short series of five films was shown and the tutor and student met four times to discuss the student's progress and the topics he was working on.
>
> The student chose to consolidate all the information into one lengthy paper. As contracted, the paper was reviewed on the criteria of accuracy, completeness, and thoroughness. Throughout the paper, in all areas covered, the student showed a good, clear, thorough and accurate understanding of his topic. In areas where his use of terms appeared to be simple quotes from his resources, he was quizzed verbally and these areas were discussed to insure a full understanding.
>
> The student showed particularly fine understanding of some of the psychological components of alcoholism, which was an area he had not been previously aware of. His ability to discuss how these related to problems in the alcoholic family suggested more than a superficial understanding of the topic.

> On the whole, I would rate the student's understanding of his topic as having shown great improvement in all areas over the period of time allotted the course, and that this understanding is now highly consistent with current knowledge in the field.
>
> The amount of information covered by the student's paper was extensive, covering the topic from a large variety of angles, such as the disease symptoms, the effects on the family and society, and the treatment of alcoholism. The paper was tied directly to those topics which the Contract laid out, and all the questions asked about each of the areas in the Contract were answered adequately.
>
> In summary, the student showed a knowledge of the topic of Alcoholism more than adequate to complete the contract satisfactorily. Progress in his understanding was evident over the span of the tutor-student meetings and depth of understanding was expressed both when he was questioned verbally by the tutor and in his writings.

The final contract selected for this case was Tony's study of public policy in criminal justice. Tony undertook this five credit, advanced level full-time contract with a qualified tutor. He focused on these topics: how a bill become a law; capital punishment; diversion: a response to overprocessing; decriminalization: a response to overcriminalization; and deinstitutionalization: a response to overincarceration. Tony was assigned selected readings on these topics, met periodically with his tutor, and prepared a major research paper. The tutor evaluation commended Tony's work as shown in these excerpts:

> The first part of Tony's contract dealt with "How a Bill Becomes a Law." During this section, the student identified the major steps necessary for a bill to be introduced, debated, and passed. He identified how a bill is drafted by the Legislative Research Committee and is then introduced by its sponsors. The student demonstrated an understanding of this process by including his personal opinions of how a bill may be interpreted and enforced after it becomes a law. ...
>
> The third section of the contract dealt with the policy of "Diversion." Tony defined diversion as "the channeling of our youth away from the Juvenile Court system." He went on to identify the rationale for diversion, a description of diversion programs, and the evaluation of diversion

> programs. The student did a fine job during this section by identifying various studies that have been concluded on diversion programs. ...
>
> Overall the student did a fine job in identifying the various components of Public Policy as they related to Juvenile Justice. He demonstrated analytical ability by including his own personal theory which incorporated and critiqued public opinion regarding the issues.

The three contracts provide evidence of Tony's learning in the broader components of his degree program. The evaluations showed Tony to be a diligent, careful and thorough student who performed at a more than adequate level and completed his work according to what was proposed in the contracts. Research staff asked Tony how he maintained his full-time study and whether he worked? Tony replied:

> I studied close to nine hours per day or more than 45 hours per week. Studying was my first job at the time. I pressed very hard. I went into my room and turned everything else off. I wanted no interruptions so I could concentrate. I worked on the wording of my portfolio essays, for example, one page at a time, often spending two hours on a paragraph. I worked part time only as a janitor two hours a night. My wife worked full-time.

Tony's mentor said:

> Tony worked like a beaver. He clearly studied 35-40 hours a week. Tony was a serious and faithful student. I met with Tony once a week, usually for two hours and talked on the phone at least once a week.

During his eight contracts, Tony worked with tutors in five contracts which required special or technical knowledge and worked with his mentor on the other three. Research staff asked Tony to describe his relationship to his mentor. Tony said:

> My mentor always challenged me to work at a higher level than I expected and made me think through difficult questions. He never gave me anything but directed me to new areas of learning. My relationship was very effective educationally and very rewarding personally. When I said:

> "I've had it!" my mentor would say: "Wait a minute. Let's look at this again!" As a result, I did one contract over five times.
>
> ...during the evolution of my program, I was frustrated and discouraged many times. The only reason I stayed in the program was because of my mentor. My mentor really cared!

His mentor said:

> Tony came into the program with a good guy/bad guy view of the world. So I challenged his assumptions and got him to enlarge his focus. His first paper was full of Marine Corp judgments about history; so I had Tony redo it, taking out his personal views. My relationship with Tony was educationally effective and personally satisfying.

Research staff asked Tony to look back on his ESC education and identify the single most important benefit:

> Tony said "accomplishment!" I achieved my goal. I set out to get a B.P.S. and I did! I never thought I would get it. I had very good help from my wife also. A good mentor is 50% of the battle; spouse is 25% and student is 25%.
>
> Greatest challenge: Getting communication and rapport that's needed. If you don't have it, you are gone. I'm satisfied with what I did. I'm not sure whether my mentor or me was right. One time I talked for thirty minutes straight and my mentor responded for 30 seconds. In the end, 99 percent of the challenges of my education came together. I always knew the degree was important to my wife but at ESC I also learned that my getting a degree was important to my mentor, the mentor-coordinator and the Alfred unit.

Tony's mentor responded to the same two questions in this way:

> Most Important Achievement: Tony became more of an educated person, beyond just being competent in criminal justice. The program broadened him--his notion of psychology, history, society, alcoholism and counseling enlarged. We got him away from the subjective.
>
> Greatest Challenge: Getting Tony to break loose; to be more adaptable and to move beyond narrow ideas. Breadth of learning is more important than Firearms 2. Tony could work at a high level in a narrow field and become a vertical barbarian. Our society is full of engineers who send rockets to the moon without knowing the implications.

The Future

Tony earned his degree in December 1981, at age 38. Research staff interviewed Tony in October 1983 and asked him what his plans were for the future. Tony has looked for a job in the Elmira community during the past two years and he has not been able to find the employment he desires. He still works part-time as a custodian and his wife works as a receptionist in a beauty salon. He has come to the conclusion that he must leave the Elmira area but is remaining there while his son finishes his senior year in high school.

Tony has sent out 115 resumes and is pursuing leads to jobs in the teaching or counseling fields, especially working with youth. Tony said: "I've seen it all as a police officer and prison guard. I've been through it and don't want to stay with it. I feel I'm on the verge of making a lot of changes in my life and work."

At age 41, Tony is still searching for the right job. His chosen field of criminal justice which had seemed for eight years to be his career focus had now come into serious question. No longer able to work as a correction officer, Tony is considering new lines of work in counseling and teaching, thinking about moving away from the Elmira area, and sorting out his next educational goal. Family responsibilities were changing as his children completed high school.

Empire State's educational program can make a real contribution to individual development in adulthood. Given the adversities in Tony's past, Empire State was able to provide, through its mentors, program and learning resources, a supportive setting that contributed to Tony's development, gave him a broader outlook on future career possibilities, and gave him more confidence to face the uncertainties in the second half of his life.

BETSY

Reconciliation was a constant theme in Betsy's life. She made a consistent effort to harmonize her humanitarian values with her life's work. She was a grass roots organizer all through her youth...involved in humanitarian activities for underprivileged inner-city children, in anti-racism seminars, and in a variety of community projects. Her concern was the city and she threw her energies into creating a sense of community among different urban groups. Betsy graduated from high school and went off to college...she ended up living and working in New York City and California. Eventually, she returned to Rochester, where she sought to reconcile her life in her home town setting. As an outstanding student and independent idealist, Betsy, at age 30, enrolled at ESC, bringing together her interests, work and community organizing in an innovative degree program entitled "Cities as Communities."

Betsy grew up in Rochester, New York as a daughter in a middle class family that had strong Roman Catholic values and strong family ties. Betsy developed a sense of community based on her emerging humanitarian values. She was always involved in projects that improved and preserved city life. While still in high school, she worked with the Rochester Urban Ministry and organized and supervised a children's play lot in an area that was to gradually become restored as an historical landmark (Cornhill). This experience prompted a new consciousness in Betsy for preserving neighborhoods and Rochester institutions. She helped to run anti-racism seminars in the city in the late 60s in order to explore the reasons for and solutions to racist structures and attitudes in society. Betsy also assisted in the production of a slide-tape show on Rochester history and organized the first "Genesee River Walk" to promote awareness of a beautiful natural resource within the city.

After graduating from high school in 1970, Betsy went to Fordham College in New York City. She loved city life and participated fully in the cultural opportunities that New York City offered. But in the months that followed, Betsy found that she was generally frustrated with campus life. She was unable to reconcile her dream with the academic meaning and direction of a traditional college curriculum; she was unable to reconcile her aspirations with a compelling vision to supplant the issues of the 60s on college campuses; and she was unable to reconcile her desire to be independent with the constraints of being a freshman, especially with her failure to gain entry into an independent study program.

All in all, this first experience with higher education was negative. On the positive side, however, it was an awakening process for Betsy. It motivated her to examine her life from a variety of perspectives. She was an independent young woman who had emerged from high school a leader among her peers. She had grown up in the 60s, living through the political crises of the Vietnam war, Vatican II, and thriving on the visions of the charismatic Kennedy administration. Having graduated from high school in 1970 Betsy sought on the Fordham campus a new sense of community in the apathetic aftermath of the 60s but there was nothing with which to identify. She had left home to go to college, but Betsy was disenchanted with the idea of staying at Fordham and began to explore the alternatives.

At the end of her freshman year, she obtained part-time work at the Women's Liberation Center which enabled her to stay in New York City a while longer. For the next few months she worked as an office manager at the Center, learning much about her own values. Betsy became aware of the pitfalls of such an organization. She felt, both then and later, that the leaders in the women's movement see men as villains. She could not accept

this attitude because the two men that she respected most in her life (her father and brother) did not fit into that category. Her disenchantment with the women's center and the fact that her job there was ending coincided with an opportunity to go to California. She knew some people who were living in Berkeley, and Betsy was still searching for something significant in her life. Although she did not plan to stay in California when she left New York, she did end up living in the west for several years. At first she lived in a collective, where the group was loosely allied on political issues, and later she moved to a place of her own. At this time she was working as a telephone operator for an answering service on the midnight shift. Eventually Betsy became a volunteer in the Women's Health Collective, which led to a civil service job as a hospital ward clerk.

She was interested in and influenced by the local union. She soon became a shop steward and in Betsy's words, "They would remember me!" Betsy's interest in the labor movement motivated her to take a course entitled "The American Labor Movement" at nearby Merritt College. Her method of learning would always continue to integrate her desire to learn through firsthand experience and formal study. She continued to do volunteer work, such as being a party worker for the Bobby Seale Campaign for Mayor of Oakland. This campaign stimulated her to enroll in another college course, "Law and Minority Rights," also at Merritt College.

After living in California for awhile, Betsy decided to return to her hometown of Rochester, at the age of twenty-three. She found employment with Kodak, a firm that had always prided itself in the fact that it did not need a union. She had returned from California as a strong union advocate and had a secret hope that she might be instrumental in unionizing Kodak. She soon learned, in her own words, that "unionism was not the Godsend that unions

would have you believe" and she has laughed at her naive efforts since! While working at Kodak, Betsy began to wonder if she should pursue a professional career like engineering, and so she took a calculus course at the University of Rochester to see how she liked the subject. It was a struggle; she failed the exam and had to take it over. Betsy said, "It was a painful process with few rewards." At this point, she heard that there was going to be a public relations position available in April of that year, and she thought that she might have a pretty good chance of getting it. However, when April came and someone else got the position, Betsy decided to leave Kodak and go back to college. In her own words:

> Throughout this time I earned my bread and butter in factories and offices so that I could put my creative labor into my avocations. This situation was satisfactory for quite a while until certain contradictions appeared: personal dissatisfaction due to lack of recognition on the job; career dissatisfaction because working on a volunteer level outside of a full-time job had limited impact; educational dissatisfaction because there were subjects I wanted to study and books I wanted to read but not enough time to do either.

These were the reasons that made Betsy give up a full-time job and become a full-time student at ESC.

Before Betsy actually decided on ESC, she did a lot of exploring of college programs. She had taken courses in the University of Rochester's adult program and had looked at the State University College at Brockport's Mature Adult Program. She attended an information session at ESC and was quite impressed with the flexibility and independence of the program. The assistant for student affairs at the Rochester Center came out to Kodak to meet Betsy for lunch and gave her a more indepth idea of how ESC's program might fit her needs. Betsy began to look more closely at ESC; she met the Dean and talked to other mentors that related to her interests. She enrolled

after she had a telephone conversation with the mentor who was eventually assigned to her. He seemed to understand Betsy and her needs. From that point on, Betsy's satisfaction with ESC's program grew.

Betsy's innovative degree program included 58 transcript credits earned at Fordham University, Merritt College in Oakland, and University of Rochester, eight credits (CBE) in community organizing and six credits of English composition (CLEP test). Her transcript credit provided a liberal base upon which Betsy built her concentration of the city as community which was a natural extension of her grass roots philosophy of community organizing. "Volunteer organizing experiences offered a practicum, a way of trying theory, of impacting existing structure, of building new structures, of evaluating change." Betsy's educational goals were to improve her knowledge and skills in community organizing and possibly to pursue a graduate degree in public administration.

In four multi-part contracts, Betsy pursued her studies at Genesee Valley. Her contract topics included Modern America, neighborhood preservation, American politics and government, urban anthropology, theories of complex organization, public policy, urban politics, the modern American novel, journalistic writing and theory, computer science, and micro and macro economics. Betsy spent a great deal of time putting together her degree program and portfolio. Her general essay was revised several times to provide more thoughtful rationales for her selected contract studies. Her mentor's evaluation of her program states that Betsy:

> ...engaged in a series of interviews with professional and well educated people who are involved in various aspects of urban politics and community development. In addition she conducted library research and analyzed a number of well-organized baccalaureate programs in urban studies and similar fields. She also assembled material and wrote an essay defending her application for credit by evaluation in community organizing. The outcome was a fine portfolio

> and degree program with a concentration in Social Theory, Social Structure, and Change, with a focus on cities as communities. All of these activities were done with great intelligence and discipline. But, perhaps more important, they provoked Betsy to philosophical reflection about the value and integration of her collegiate program in relation to personal and social values and in relation to her mature and well-developed concept of community. This was not an abstract theorizing; it was rather an inquiry not only about the development of a baccalaureate program but also about Betsy herself, how and where she wishes to live, and what work and contributions to community she wishes to make.

In regard to Betsy's degree program, her mentor, in the panel review interview, offered these additional comments:

> It took Betsy a long time to think through her program. She enrolled in fall 1980 but did not get her degree program approved until February 1982 and completed her studies in April 1982. The assessment committee reviewing her proposal suggested the concentration title, "Cities as Communities" which the student agreed was a better title than Urban Studies. The assessment committee also asked her to discuss the reasons for choosing contract studies as part of her degree program rationale. At the last stages of her program, she was aware of alternatives and her program probably could be considered thematic. The theme of reconciliation seemed to capture the soul searching work she did on her CBE and her intellectual, vocational and emotional commitment to community work in the context of her Christian ideals.

Given the years Betsy spent in various jobs and in community organizing, the review panel asked why this student did not pursue more CBE credit. Betsy told research staff that she did explore various ways to draw upon her prior learnings for more credit. For example, she discussed with two different mentors the possibilities for more credit in writing and art but discovered this would be introductory level credit which she did not need. "Originally, I had divided my extensive experience in community organizing into four sections and asked for more credit. My mentor told me to write it up as a whole and this led to a smaller overall package of credit." Betsy's mentor

confirmed her efforts to explore other prior learnings but said that there would be insufficient advanced level studies left to meet ESC degree requirements if she used them.

Betsy pursued studies that would give her a deeper understanding of the interaction of individuals, community organizations and the larger society, using anthropological, historical, political, comparative, and literary perspectives. Her innovative, almost thematic, program found Betsy studying with seven different mentors, and drawing upon a wide range of academic and community resources. To illustrate the range and scope of Betsy's academic studies, let us now look at several contracts which provided an intellectual foundation for her interests in communities.

One part of Betsy's first contract was a study of Modern America, a contemporary view of U.S. history with attention to national politics, international relations, and social relations, including race, ethnicity, class, welfare, unemployment, and public policy. To improve her knowledge of the inner city community, Betsy read the following books: America in Our Time by G. Hodgson; Retreat to the Ghetto by T. Blair; One Nation Divisible by R. Polenberg; The Culture of Inequality by M. Lewis; Rise to Globalism by S. Ambrose; and Poor People's Movement by Piven and Cloward. Betsy's mentor was pleased with:

> ...the high level of all discussion and with her use of materials (including articles and newspaper sources) that she read. Her research paper dealt with the problem of public school integration, for which her primary sources were Blaustein and Ferguson, Desegregation and the Law and Kluger, Simple Justice; the essay treated the turns of Supreme Court rulings, actions of lower courts, the two James Coleman reports (1966 and 1980), and discussion of some of the difficult problems still in existence. The paper's weakness was its failure to define as well as possible a thesis that would have illuminated the issues. The emphasis, in much of the study, upon social pluralism in America helped clarify for Betsy the nature of the problem.

In another part of the same contract, Betsy studied Neighborhood Preservation: Problems and Strategies. This area was of great personal interest as Betsy has been a volunteer and leader in her own neighborhood association within the city of Rochester. She did a major paper on the problem of low income housing in relation to the goals of preservation and revitalization of older urban neighborhoods. In her paper Betsy examined the issues with particular attention to the Rochester situation. The mentor described the diligent effort that Betsy made in completing her study:

> Betsy showed good understanding of the difficulties that have continued to exist for the poor in obtaining housing that is of adequate quality and located in relatively stable neighborhoods where residents have a feeling of community roots. As public policy has shifted from slum clearance and urban renewal to an emphasis on conservation and rehabilitation of existing housing stock, the poor and minorities have remained likely victims of displacement from improving areas of cities putting pressure on other sections as they compete for the remaining affordable housing. Betsy gave much coverage to many strategies that have been employed or recommended for fighting against the displacement cycle in American and European cities. She made very effective use of at least twenty sources of information including several important recent articles from the Journal of Housing, the National Urban Coalition's Citizens's Handbook on displacement, broader studies such as Lottman's How Cities are Saved and Scott's American City Planning, and relevant recent articles. In sum, Betsy gained a good overview of the complexity of the problem and of possible remedies for it. Her paper was well-informed, well-documented, clearly written and intelligently through out. Betsy took keen interest both in the subject and in the quality of her work; she pursued her studies in an aggressive, resourceful, self-helpful manner.

In Betsy's second contract, she learned the fundamental principles of macro/microeconomics and computer science. In dealing with this contract, we shall also respond to a question that came up in the panel review. The panel wondered if Betsy had thought about doing more in the way of research skills in light of the topic she chose. Although she never took a contract in social

research and/or methods, she did complete work in micro and macro economics and computer science and mathematics. She did find her study of computer science difficult and her "slow rate of progress through text problems very discouraging," but she thought that she had adequate background in this general area. Her mentor also commented that, "Betsy is not interested in research or business management but rather in supervision of community relations and development. She thought this through and decided her math background plus her economics was sufficient."

Betsy covered the following topics in the economics portion of this contract: national income accounting; employment fiscal policy; money, banking and monetary policy; economic growth and resource policies; the laws of supply and demand; the economics of the firm; domestic problems; international economics; and development of, and reactions to traditional capitalism. According to the mentor's evaluation, Betsy acquired an excellent comprehension of the fundamental principles of macro/microeconomics.

In the computer science portion of this contract, Betsy used the text Introduction to Computer Science: A Structured Approach by N. Graham. She also completed The Applesoft Tutorial which provided an introduction to the BASIC language. In the evaluation, her mentor does say that Betsy:

> ...completed this study in a adequate fashion. She read the text carefully and her written answers to questions indicated that she acquired an excellent understanding of the terminology and special vocabulary of computer science. She experienced considerable difficulty with the text problems and found her slow rate of progress through the study discouraging. She did well in understanding and constructing simple algorithms. In algorithms requiring more complex programming techniques such as nested-loops, multi-dimensional arrays and logical constructions more complicated than simple sequential operations, she had some difficulty. If Betsy wishes to pursue study in computers, further study at this level would be beneficial.

The last part of this contract was devoted to a study of the Modern American Novel, concentrating upon the period from the end of World War I to 1960. Betsy read My Antonia by Willa Cather, Main Street by Sinclair Lewis, the Great Gatsby by F. Scott Fitzgerald, Native Son by Richard Wright, Invisible Man by Ralph Ellison, Henderson the Rain King by Saul Bellow and The Group by Mary McCarthy. She was interested in the way that these novels dealt with American life in its modern urban phase. Her work in this area was very good, revealing real insight into each of the novels that combined her own interpretive responses with ideas she had acquired from the secondary sources. She did a very substantial amount of background reading related to modern American literary history and to the writers of the books she read. Her mentor said, "In sum, Betsy was unusually well able to combine understanding of the novel as art, as philosophical perspective in the world or some aspect of it, and as historical document."

The fourth and final contract was a very substantial effort, utilizing many different resources and several different mentors. Much of this contract dealt directly with her concentration, e.g. public policy, theories of complex organizations and urban anthropology. The purpose of the contract was to allow Betsy the opportunity to explore a range of human experiences in urban settings. The emphasis of this contract was on network analysis, i.e. showing how and why urban dwellers enter into economic, political, and kinship relations and how such networks are strategically used in urban environments. Her readings for Public Policy included works by T.R. Dye (Understanding Public Policy), H. Arkes (A Philosopher in the City), T. Lowi (An End of Liberalism) and J. Califano (Governing America) as principal texts, with significant research for a very well constructed and argued paper on affirmative action. The research was thorough and thoughtful, judgments were

fair and placed in good context, and ethical problems were well articulated. The paper was also notable for its accurate legislative and administrative history of the topic. Her mentor said, "She has been and continues to be an outstanding student. Her work in this segment of the contract was completed at an excellent level of achievement."

In the second segment of the contract, Betsy read Organizations by Richard H. Hall, A Sociological Reader on Complex Organizations edited by Amitai Etzioni and Edward W. Lehman, The Organizational Life Cycle by John R. Kimberley, R. H. Miles and others, and Organizations in Action by James D. Thompson. In her writing and in her discussions with the mentor, Betsy demonstrated excellence on all of the criteria set for this contract: clarity of expression both verbal and written, demonstration of ability to distinguish grand theoretical schemes from attempts to understand organizations by utilizing a limited set of comparative variables, and demonstrated ability to perceive the derivation of a limited set of variables from a theoretical perspective.

The third segment of this contract was urban anthropology. Betsy read All Our Kin: Strategies for Survival in a Black Community by C. Stack, Tally's Corner by E. Liebew, Blue-Collar Aristocrats by E. E. LeMasters and Family and Kinship in East London by H. Young and P. Willmott, Family and Social Network Roles: Norms, and External Relationships in Ordinary Urban Families by E. Bott and Social Networks in Urban Situations by J.C. Mitchell. "Through much of her written work and in our discussions, Betsy demonstrated a good grasp of the issues facing diverse groups of urban dwellers and showed much sensitivity and appreciation for the problems and the strategies of the urban poor" were the words of her mentor in evaluating this section of the contract.

Betsy finished up her last contract by constructing a wide-ranging reading list of studies in urban politics. After spending a lengthy period of time reading and discussing with her mentor, Betsy brought her work together in a 26 page paper that examined the emergence, competition and adaptation of "machine" and "reform" styles of politics from the mid-nineteenth century to the present. Her mentor said that, "she showed good understanding of ideological and institutional characteristics of both political styles and the bases of their appeal to constituencies, and historic changes within the urban and national environment that have challenged both machine and reform traditions to adapt in sometimes overlapping ways. Betsy was also steadily aware that neither one has been a panacea for our cities."

In reviewing Betsy's degree program, portfolio and contract work, the faculty panel judged the quality of her academic work as outstanding. Panel reviewers judged this student's contract learning as follows: outstanding understanding of theory, adequate grasp of methods of inquiry; outstanding comprehension of basic facts and specific knowledge; adequate plus demonstration of synthesis skills; and outstanding overall performance in contracts. When research staff asked for similar judgments about the quality of Betsy's program from the mentor and from the student, the following picture of the quality of her work emerged.

Raters	Rating Overall Quality of Academic Work	Rating quality of Academic Work in Specific Contract	ESC Program Meeting Student's Educational Goals
Panel	- Outstanding	Outstanding	Very Successful
Mentor	- Outstanding	Outstanding	Very Successful
Student	- Outstanding	Outstanding	Generally Successful (90%)

Betsy described the relationship with her mentor as "intellectually challenging yet caring." The dynamics of their conversations enhanced her learning tremendously. For example, Betsy often knew what she wanted to say

and write but could not get her ideas down on paper. In talking with her mentor, he would ask questions, help her crystalize her thoughts and reasoning, and then she could work out her paper. She rewrote papers many times and saw the educational value in this. She felt her mentor had high standards. Her mentor described the relationship with Betsy as both very educationally effective and personally satisfying. He eased Betsy's anxieties when needed, took into account her personal goals when planning contract work and, in general, felt the student knew what was expected and produced high quality work.

When asked what the single most important benefit Betsy obtained from her ESC education, she said it was the confidence in her intellectual ability. "I worked hard and received excellent constructive evaluations. This reinforced my study habits and my desire to learn and to understand what I learned." To the same question, her mentor replied: "Betsy gained an affective relationship to ESC and the educational community and the world of thinking."

Betsy felt the greatest challenge presented to her by the program was "first, to be able to write at length and write clearly and concisely about complex problems and issues I studied, and second to be able to talk about the issues cogently." Betsy's mentor felt her greatest challenge was to "define her moral vision with a practical context for her education and career."

The theme of reconciliation runs through Betsy's case. In an effort to harmonize her humanitarian ideals with her strong concerns about loss of community, Betsy left home but returned; went away to traditional colleges but returned to a non-traditional program more comfortable to her educational aspirations; sought independence and autonomy yet desired a balance psychologically with her sense of community wholeness. In searching for a way to realize her moral vision, Betsy has continued her community organizing but

her ESC program has aroused a high level of intellectual curiosity and interest in community life. After graduating in October 1982, Betsy found a job as assistant city planner, helping to translate zoning ordinances for people unfamiliar with the meaning and impact of such matters. She is also designing videotapes for a cable TV station that will spread information on city services. Since leaving ESC, Betsy has worked on the political campaign for a city councilman, helped elect a progressive school board candidate to the city school board, worked on a campaign for a Metro Police Force and continued to work with the neighborhood preservation organization where she lives. Indeed, these community activities suggest that Betsy has in some degree reconciled her humanitarian ideals with the practicalities of city life.

SHIRLEY

Shirley was a highly motivated and independent woman with great expectations... She sought a degree in Industrial Management in order to get out of the secretarial ranks and into a professional position and in the future to establish a business of her own. Shirley took 14 contracts with seven different mentors; her relationships with the faculty were both frustrating and rewarding. As a woman in the business field, studying at an accelerated pace, she intended to beat the odds for success in the corporate world.

Though married and raising a family, Shirley worked full-time as a secretary/administrative assistant at the Xerox Corporation and had aspirations for moving up the corporate ladder. At thirty-eight, she was anxious to get going and so a college degree took on special significance. She enrolled at ESC knowing exactly what she wanted from her program and she set out to accomplish her goals as quickly as possible. Her short term goal was to obtain an entry level professional position at Xerox and her long range goal was to establish her own business. As a full-time worker and a full-time student, Shirley's capabilities in handling her secretarial, academic and domestic responsibilities simultaneously were tested during the course of earning her degree.

Shirley attended Corning Community College right after high school but left after one year to pursue training as a medical secretary at the Rochester Business Institute. After working for several years in medical offices and at St. Mary's Hospital, Shirley left to raise a family. Because she wanted a job to fit in with her domestic responsibilities, Shirley turned to the real estate field and learned the daily operations of the real estate business. She took the required real estate courses; after selling for a year, she

qualified to take the broker's exam. At the same time she had an opportunity to work at Xerox and felt that a large corporation offered her better career possibilities in management as well as the possibility to pursue further education. It was shortly thereafter Shirley decided to pursue a degree at ESC.

Shirley wanted a B.P.S. degree in Business, Management and Economics with a concentration in Industrial Management. Her degree program contained thirteen general learning transcript credits (ten from Corning Community College and three from Rochester Institute of Technology) and forty-five credits by evaluation for a total of fifty-eight credits of advanced standing. Among her credits by evaluation were twelve credits for secretarial skills, credits for business English, business mathematics, accounting principles, and real estate I and II from the Rochester Business Institute and credits for computer use, human resource planning, and developmental and behavioral studies during her work years at Xerox. Her contracts covered a wide range of topics including industrial psychology, marketing, industrial training, employee counseling, production control, inventory control, purchasing, labor relations, and facilities management. Her two general learning contracts covered the topics of sociology and history of decorative arts.

Shirley completed fourteen contracts for 70 credits at ESC, with seven mentors and four tutors, the largest number of contracts among the group studied by the research staff. She started out as a half-time student but found she could complete her work at a faster pace than she anticipated. She worked a shift at Xerox that gave her "time to kill" and so she switched from half-time to full-time during her fifth contract. She continued full-time for the remainder of her fourteen contracts and maintained a full-time job throughout. In illustrating Shirley's academic work, we have selected several

contracts that represent important themes in her program--the role of women in business, acquiring knowledge of basic management theory and particularly small business management, and marketing.

In Shirley's second contract on personnel administration, she read a text on personnel management, wrote answers to discussion questions at the end of the chapters, read journal articles provided by her mentor and met with her mentor periodically to discuss her readings. Shirley prepared a 20 page referenced paper on the topic "The Changing Roles of Women in Management." Regarding her work, the mentor said:

> Her paper describes the forces that historically limited the role of women in government; e.g., stereotyped thinking about the respective roles of men and women, male dominance, acceptance of an inferior, subservient role by women, etc. She then discusses the evolutionary changes of the last twenty years brought about by the Civil Rights Act, Women's Liberation Movement, etc. and traces it to the 1980's where promotional opportunities, equal financial remuneration, acceptance by males, etc., are becoming standard. The paper concludes with suggestions for still further improvement in women's management role and discusses the effects of such changes on the woman's role as wife, mother and individual. The paper was of the caliber expected of an upper level undergraduate student. It was well thought out, written with feeling, made good use of references, and further demonstrated that she could integrate the ideas of others with her own.

Shirley's third contract is significant because she did her degree program planning and identified as a secondary goal that of establishing her own business sometime in the future, possibly after retiring from industry. She also studied basic management theory. She successfully mastered the textbook, What Every Supervisor Should Know by Bittel and read eight articles in The Management Process by Carrol, Paine and Miner. In discussions with the mentor the student gave definite evidence of her increasing knowledge and interest in the subject. Shirley could relate what she read to her own

experience at Xerox and could speak intelligently on a wide variety of topics related to the subject. Her mentor said:

> Her written answers to the discussion questions and case studies were well thought out, complete and accurate, and demonstrated that she understood what she read, could express the ideas of others in her own words and could apply principles and concepts to actual situations.

In her seventh contract, Shirley studied the marketing process including an overview of the business environment in which the marketing process functions, the identification of consumer needs, and understanding of consumer behavior, the marketing process and an understanding of how product strategy and product marketing is managed. She read the text, Contemporary Marketing, by Boone and Kurtz, providing written answers to selected questions at the end of each chapter and reviewed selected cases, with written comments, from Cases in Marketing: Orientation, Analyses and Problems by Greer. Shirley broadened her knowledge of consumer marketing by reading The Japanese Consumer from the Jetro Marketing Series. Shirley acquired an understanding of the sources of marketing information by developing a bibliography which included contemporary periodicals, directories, and other resources such as professional associates. She then wrote a paper in which she outlined a marketing plan for a small business--a paper which after graduation turned out to be useful in her efforts to establish her own small business. Her mentor said:

> Her plan was an interesting and practical application of many of the concepts that she had studied. Her paper was a comprehensive examination of the factors that should be considered in the development of an effective marketing plan.

Shirley's thirteenth contract was related to her long range goal to establish and operate her own business. She studied small business management, including the nature of small business, starting a small business,

organizing and managing a small business, and the marketing and legal aspects of running a business. She read and discussed with her mentor Principles of Small Business Management by Mac Farlane. During the contract, Shirley visited the U.S. Small Business Administration and acquired an understanding of the types of service provided by the government. She also read numerous booklets published by the Small Business Administration. She wrote a paper setting forth her plan for owning and operating a small business. Her mentor said:

> Shirley's paper covered a basic step-by-step plan for starting the business including an examination of the legal, financial, psychological and marketing requirements. I enjoyed working with Shirley because of her self-motivation and her interest in the subject.

Looking back on these contracts, it is reasonable to conclude that the work Shirley accomplished eventually made a fundamental difference in the timing and direction of her career shift. Research staff interviewed Shirley in May 1983, some six months after she had completed her last contract. At that time Shirley was still pursuing an inventory planning position at Xerox but was much less optimistic about obtaining a promotion to a professional job. Xerox was in a serious business slump and was laying off employees. Although some professionals at work congratulated her on acquiring a degree and praised her motivation and hard work, they advised her to get rid of her secretarial attitudes and behavior and told her only one in a hundred people like herself are likely to break into the field. Not only was she not given encouragement but she was told "once a secretary always a secretary." She was advised to quit Xerox, secure a management position elsewhere for two years, and then return to Xerox in a management job. Recognizing that she faced discriminatory attitudes at Xerox along with a difficult economic situation

(ironically many of the things she studied in contract two), she began to reconsider the idea of starting her own business.

After much thought, she decided to launch her own word processing business and, for the next three months, she planned the steps she would pursue in setting up her business. Drawing upon her years of secretarial experience, her knowledge of word processing, and upon her studies in small business management, she decided the time was "now." Prompted by the frustration of trying to break out of the secretarial ranks, Shirley drew upon her secretarial skills to launch a word processing business that began to realize a dream which was only couched as a long range goal in her general essay. Continuing her secretarial work at Xerox, Shirley pursued the word processing business on a "part-time basis until the business really picks up."

Out of the fourteen contracts that Shirley started, the vast majority were completed satisfactorily, both to her and to her many mentors. Attached to contract ten, however, was an outcome form containing this cryptic statement. "The student did not adequately learn the materials covered in the contract and has chosen not to avail herself of additional opportunities to learn them." The faculty review panel asked the research staff to inquire into what happened in this contract.

Contract ten was designed as a three credit, full-time advanced level contract in communications theory where Shirley was to read The Medium is the Message by McLuhan; Four Theories of the Press by Siebert, Peterson and Schramm; The Public Philosophy by Lippmann and articles by Mead, Krutch, Huxley and Van Der Haag. She was to write four pages on the books and articles, showing a clear understanding of the range and nature of theories concerned with mass communications and with the impact mass communications have in modern societies.

Shirley described her view of what happened in the contract this way:

> This contract was a disaster! I read the books and did the assignments as agreed to in the contract. I wrote a paper on McLuhan's The Medium is the Message, but it was unacceptable. I had difficulty understanding McLuhan's ideas so my mentor encouraged me to read Four Theories of the Press which would help me understand. After checking Rochester libraries, I could not locate the book and finally called the publisher in Chicago to order it...cost a bundle to do this. I was very upset, called the mentor at a very unfortunate time which, in turn, resulted in a nasty exchange on the phone...
>
> I went to the Dean and he asked a second faculty member to read the paper who agreed that the paper was unacceptable... They all backed up the mentor. I had to understand the mentor's expectations for a student and had to gain his level of knowledge which was unrealistic...I did not understand the subject like the mentor but I would have been satisfied with a "C" level evaluation. I do not feel dumb as a result of this mess, but chalk it off to a personality clash with the mentor.

In discussing this situation with Shirley's mentor, he pulled her file and reviewed her assignments. He said:

> Shirley had the average reader's reaction to McLuhan--one of confusion and contradiction. When I asked her to read a clarifying essay by Tom Wolfe on McLuhan, she refused, saying this was not part of the original learning contract and therefore not a requirement for her. This student separated the learning contract from the evaluation process and said it was not stated in the contract she was required to understand what she read. Shirley had a shaky and inadequate understanding of what she read. I encouraged her to read Four Theories of the Press and told her the wrong library call number was on the book so that local libraries may not have it filed in the right section. Shirley checked the local libraries and reported she could not find the book and that eventually she called the publisher in Chicago to order it. I checked later the main Rochester library and St. John's Fischer College library and found the book at both places. This student was in a hurry; wanted to complete her full-time studies in three weeks; when she ran into trouble understanding McLuhan and could not get one book, she became very upset. I suggested several options so the student could complete the contract but she decided to drop it.

In questioning the Dean about this case, he added a slightly enlarged perspective on the matter:

> The basic issue with Shirley was breadth of study. Shirley had an unrealistic expectation of academic work and wanted to complete her work in as short a time as possible. She had a mind set to get a degree in a hurry. Her mentor dealt with the academic issues and student performance in a reasonable and fair way. This was a typical response for a faculty member--to raise questions as in Shirley's case; it was not at all an issue of support for the mentor's side.

Finally, research staff asked Shirley's major mentor, the mentor who helped her design the degree program and worked with her on six contracts, about this contract. His reply was:

> The student was stubborn and inflexible and the mentor was also inflexible. Neither would give in when they disagreed on the nature of the contract. She failed to communicate her interests, so he specified readings which she did not like.... A great challenge for Shirley was to accept some of the values of academia... to see the value of learning beyond her career goals.

In handling a case of student-mentor disagreement over the quality of her academic work, Genesee Valley does have a procedure for trying to resolve the matter. When Shirley was unable to initially resolve the matter with her mentor, she appealed to the Dean who provided a second faculty reading of her paper. Her mentor also suggested options for her to consider that would ease her difficulties in understanding McLuhan. Unfortunately, the situation became too emotionally charged and Shirley decided to drop this contract.

On the whole, Shirley seemed satisfied with the learning that took place throughout most of her contracts. She said she had good working relationships with the two mentors she studied with most. They responded to her needs and were well aware of what she was learning. When the faculty panel reviewed Shirley's program in its entirety, they judged the overall quality of her

academic work as satisfactory plus, the quality of her academic work in specific contracts as satisfactory plus, and that ESC's program was generally successful in meeting the student's goals. Panel reviewers judged this student's contract learning as follows: outstanding understanding of theoretical concepts in her concentration; satisfactory grasp of methods of inquiry; outstanding comprehension of basic facts and specific knowledge; and satisfactory plus on demonstrating the skill of synthesis. From the panel's readings, Shirley's academic experience at ESC was more than satisfactory. Although Shirley did earn a B.P.S. degree, the panel raised a question regarding the breadth of her program.

When bringing together the faculty review panel's judgments, the student's own view about the quality of her program, and her two mentors' judgments of her academic work, the following picture emerged.

Raters	Rating Overall Quality of Academic Work	Rating Quality of Academic Work in Specific Contract	ESC Program Meeting Student's Educational Goals
Panel	- Satisfactory Plus	Satisfactory Plus	Generally Successful
Mentor 1	- Satisfactory	Satisfactory	Generally Successful
Mentor 2	- Satisfactory Plus	Satisfactory Plus	Generally Successful
Student	- Satisfactory	Satisfactory	Fairly Successful

Research staff see this case as a complex one with different perceptions held by the student (of her work, the speed at which she completed it, and how it was evaluated) and by the mentors involved. Shirley, for example, seemed to feel at times that her program was not challenging enough, that her mentors were not committed enough or overworked, and that there was little consistency among the faculty... "you never know where you stand when you meet." Several mentors, reflecting on her program thought she worked only hard enough to complete the assigned tasks and would be considered a B- student. Part of the

advising effort all along had been to "broaden her focus and understanding" and also encourage her to "think deeper." In spite of her motivation, it seemed that her work was sometimes "oversimplified and skimpy."

When asked what was the single most important benefit she obtained from her ESC education, Shirley said:

> The degree! I can't say I worked superhard; I did learn new subjects, but the degree took time away from other activities. I could have done the whole thing without any college--just go to the public library. I am a highly motivated person and can handle independent study.

For this same question, her mentor replied:

> Shirley gained the qualifications for advancement in her job. That was all she wanted... she gained insight and a better understanding of what happens in organizations. She added depth to areas she already had some familiarity with.

When asked what was the greatest challenge presented to her by studying at ESC, Shirley commented:

> I got my education the way I wanted... no one prompted me or pushed me. A challenge was learning to write well and to put my thoughts together. I never attended a writing workshop but one time I did receive help from one mentor who very carefully reviewed my work... I also began to think about the outside world--beyond my social circle and immediate experience.

Her mentor's reply to this question was:

> At her age, the greatest challenge was to gain the discipline to handle the program. She had serious family problems (with kids) which bothered her. As a full-time worker, homemaker and eventually a full-time student, she handled a heavy load. However, she never considered dropping out as far as I know.

When asked for suggestions for improving the quality of the academic program, the student said:

> Mentors are too overworked; even if not, the quality of time they spend with you is not on substance; they do not discuss subject matter much. There is very little consistency among ESC faculty. You never know where you stand when you meet. They tell you one thing and then forget they said that and do not follow through on contracts.

She went on to say that she would "kill herself" in preparing five questions per chapter in an assigned text, and then not hear back from the mentor on the evaluation of her work. She thought that faculty meetings seemed to be more important to mentors than meetings with the student. When asked this same question, her mentor replied:

> ...her contract studies might have been tied more to her personal goals. ...contracts she took were beneficial to her job situation. Student was pleasant, better than average but not outstanding. Consistency is important in maintaining quality. Some mentors are very demanding and others not so much. For example, a four credit contract may be loaded with work by some mentors but much less so with other mentors. Faculty at GVRC have discussed this issue many times over the years; ...seems like it needs continual discussion.

This case shows dramatically the importance of a sustaining student-mentor relationship as a crucial factor in earning an ESC degree. Shirley was a determined, ambitious, and highly motivated woman who saw an ESC degree as a way to move into a management position. In spite of some difficult relationships with mentors near the end of her program, Shirley did receive support and encouragement from other mentors and her degree program was generally successful in meeting her educational goals. After graduation, Shirley began to recognize that conditions at Xerox were not conducive to her entering the professional ranks and so she started her own business somewhat earlier than she originally thought.

ESC seemed to be a "natural fit" for Shirley. In spite of some frustrations with her program, Shirley used the flexibility ESC permitted to reach her educational goals, received a substantial amount of advanced standing credit (CBE) that shortened her time in the program, and very recently was able to draw upon her learnings in small business management to achieve a long held goal of a business of her own. Drawing upon her own research into the role of women in business and her frustrating experiences in moving up the corporate ladder at Xerox, Shirley believes that for a woman in business the best place to be is in a business of her own.

RALPH

Ralph pursued a concentration in computer informations systems and he was the first graduate at Genesee Valley to earn a degree in this area. Already holding two degrees from well known universities, Ralph was engaged in a major career change. He designed a unique program in micro-computers and was employed as the first assistant in the Center's newly formed computer lab. An outstanding 33 year old student, he studied full-time and challenged the center's faculty to provide the support and learning resources to carry out his degree plan. Since graduation, Ralph has obtained a very good job as a micro-computer programmer with a leading computer company in Texas.

Ralph had a unique opportunity and unique challenge in pursuing his degree at ESC. He sought a degree in a field that was entirely new to him and he was concentrating in an area (computer information systems) that the center was just initiating when he enrolled. Having already earned two degrees before enrolling at ESC, Ralph sought a major career change that required a second bachelor's degree.

Rochester was Ralph's hometown. After graduating from high school in 1965, Ralph joined the Army and served for three years. Upon his discharge from the service, he enrolled at Syracuse University where he earned a bachelor's degree in political science in 1973. He then pursued a master's degree in public affairs at the University of Texas (Austin) and graduated in 1975. For the next five years he sought employment in public affairs but was unable to find a job in his chosen field. He thoroughly enjoying living in the Austin area but was increasingly dissatisfied with employment opportunities there.

"It took me a long time to figure it out, but I finally decided that I really wanted to work with computers." All Ralph knew about computers was

that he enjoyed a very limited exposure to them five years previously, and that "computer professionals seemed to be both well paid and in high demand." As he said in his general essay:

> ...I really had no idea what computer professionals did for their money, much less what they need to know to do it. So as part of my first Empire State contract, I set out to learn enough about the computer field to construct a degree program which would qualify me for a degree and employment.

Ralph decided to return home and live with his parents while pursuing plans to earn a degree in computer science. He soon discovered that the computer field was so new and it was changing so rapidly he needed a college program that would provide great flexibility and an opportunity to draw upon his previous college experience in planning another degree. Furthermore, he wanted to design his own program, obtain a degree in a relatively short period of time, and pursue it through independent study. Thus, Ralph enrolled at ESC rather than in a traditional university program in computer science even through he recognized that ESC had limited resources to support directly his educational goals.

The challenge of constructing an appropriate degree program in computer information systems was a major one for Ralph. What he discovered was a "professional discipline possibly more chaotic than any other. A large proportion, probably more than half, of the computer practitioners had either no degree at all, or else a degree in some unrelated field. No consensus existed as to what ought to be studied, or indeed whether computers per se constituted a legitimate field of study." Although there were computer science degrees offered by many universities, careful examination of courses offered in those degrees revealed little commonality. Employers also faced

great difficulty regarding what skills and knowledge computer science graduates might have that would make their employability attractive.

With this context in mind, Ralph set forth to plan his degree. This task was even more challenging given Rochester's lack of faculty and facilities to support his career in computers. In his general essay, Ralph remarked:

> We all knew so little here that we didn't even know how little we knew. To the extent I could understand those in the field whom I talked to, there seemed to be no consensus about career paths. A Kodak programmer advised me, "Learn IMS (whatever that is). That'll guarantee you a job." A Burroughs programmer advised me, "The future lies in systems programming, not applications programming" (whatever that meant).

Ralph decided on a strategy of setting up certain constraints in planning his degree and then "watching which way the wind blows." As he put it:

> 1) To get a degree called computer science or something very similar, since this is still what the ads ask for.
> 2) To get the degree as quickly as possible.
> 3) To learn enough theory to obtain a degree of lasting value and satisfaction.
> 4) To learn enough practical material to become immediately marketable.
>
> I understand that these constraints are somewhat contradictory, as they require me to study a full theory curriculum (to get a "computer science" label), along with additional practical courses (because the professional vacancy ads all ask for specific experience, some even going so far as to state that education is not required).

In the course of Ralph's research into the computer field, he discovered that the Association for Computing Machinery (ACM) recommended curricular guidelines for computer science in 1978 which were widely adopted by colleges. Employers, however, have been unhappy with graduates of the ACM curriculum because they are too heavily educated in mathematics and theory and not trained enough as practitioners. Thus, computer science graduates required considerable on-the-job training to reach minimum productive competence.

Although Ralph was personally interested in the theoretical side of the field, he was also very concerned with the demands of the job market. As a result, his degree plan contained sizeable components in the theory as well as the practical application of that theory. In his degree program rationale, Ralph explained and justified his selection of contract studies in these terms:

> My strategy has been to skip two of the more esoteric theory courses suggested by ACM (theory of formal languages and switching theory) and substitute COBOL and system analysis courses. Also, I have used microcomputers for nearly all lab work. This means microcomputer architecture, microcomputer assembly language, microcomputers in business applications, microcomputer operating systems (in addition to main frame operating systems).
>
> There has been an element of serendipity in this focus. Initially, I concentrated on microcomputers because Empire State College only had access to microcomputers. Yet in the year and a half since I started, microcomputers have grown from mere toys to dominate the computer field in terms of both gross sales and promised future implementations.
>
> I have elected to study all of the mathematics courses recommended by the ACM. I did this partly because I felt my math background was weak, and partly because I expected a solid math foundation to become useful in understanding more advanced concepts. This has turned out to be true.
>
> In addition, I have taken most of the more standard "core" computer courses, such as data structures, file processing, operating systems, micro-computer architecture and assembly language. These are the courses that cover what is actually happening under the hood of the computer, and can separate the systems programmer from the applications programmer; the computer scientist from the computer operator. The architecture and assembly language courses are more mechanical in nature, while the data structures and operating systems courses tend to be more mathematical.

Ralph sought a Bachelor of Science degree in science, math and technology area with a concentration in computer information systems. He drew 42 credits of general learnings from his political science degree at Syracuse and 27

credits in research, methods and policy studies from his master's degree at the University of Texas, for a total of 69 credits of advanced standing. In his five learning contracts, he studied math (calculus, discrete math structures, college algebra and trig), computer languages (PASCAL, COBOL, Assembly language) and the topics mentioned above in his rationale as part of his concentration. In his final contract, Ralph undertook a six credit internship in systems development with the Surgicot Corporation where he designed, wrote, and put into use a conversion cost analysis package for micro computers.

Ralph began his studies, as we have noted, by investigating possible careers in the computer field. He discussed employment opportunities with computer programmers and counselors at employment agencies. He read recent employment surveys and computer science periodicals as well as various publications of the Association for Computing Machinery. His mentor evaluated Ralph's career and educational planning in these words:

> Out of this abundance of frequently conflicting and confusing information, Ralph gradually developed a degree program which is designed to satisfy his intense interest in computer science as a developing theoretical discipline and his desire to find employment in the field... In addition, he presented a well written short essay summarizing Joseph Weizenbaum's Computer Power and Human Reason. His discussions with me showed him to be a perceptive observer of the conflict between academic expectations in computer science studies and the needs and wishes of the wider community of computer users. While the broad direction of Ralph's study in computer science is now well defined, he continues to scrutinize his program in order to improve and refine his learning. Ralph is to be congratulated for the seriousness, thoroughness and quality of his work in this contract. His educational and career planning is designed to fulfill his short term educational purposes as well as to provide a foundation for a life's work and study.

In this same contract, Ralph gained an introduction to computer science by studying computer history, computers and problems solving, decision

structures, vectors and arrays, strings, sub-algorithms, functions and procedures, programming style, and advanced string processing. He read Introduction to Computer Science by J.P. Tremblay and R.P. Hunt and solved abut 100 problems from the text. His mentor stated that Ralph did "superior work in this contract," quickly grasping the fundamental principles of algorithm construction. Ralph developed a "particular interest in string processing and pursued the development of programs concerned with string processing well beyond the text requirements."

Ralph's third contract is significant because he started studying microprogramming and microprocessing. He read An Introduction to Microcomputers by A. Osborne and 6502 Software Design by L. Scanlon. His mentor evaluated his work as follows:

> Ralph's study of microprocessors and microprogramming began with a brief overview of the origin and evaluation of computers and a review of numbering systems, binary arithmetic and boolean logic. Ralph then proceeded forward into a detailed study of the following microprocessing topics: memory devices, memory types, memory addressing techniques, ROM, RAM, instruction sets, central processing unit (6502 and 280), I/O handling, interrupts, protocols and the rudiments of microprogramming. Ralph utilized the knowledge he acquired regarding microprocessors to program a highly complex I/O routine as well as develop detailed logic for other complex algorithms. Ralph also surveyed several computer journals to determine the range of current microprocessor application and utilization. As a result of his study, Ralph has acquired broad knowledge in the areas of microprocessors and microprogramming.

Ralph also studied COBOL in his third contract, his second language learned after studying PASCAL in his second contract. He read Structured COBOL Programming by R. Stern and N. Stern, completed various assignments, and "demonstrated adequate knowledge of basic COBOL syntax."

Ralph's final contract was a 15 credit advanced level contract with four parts: a study of data base systems, a study of file processing, a study of systems analysis and an internship on systems development.

In the first three parts of the final contract, Ralph worked with a tutor. In the data base systems study, Ralph read selections of An Introduction to Data Base Systems by C.J. Date and Data Base Management Systems by A. Cardenas, did selected exercises from the texts, and discussed questions posed by the tutor. In addition, Ralph designed a data based scheme for a production system and described how each update and report process would be accomplished, identified which would be batch on-line and which would be batch-message-processing, described security methods which would be implemented, and described the pointers used between segments and the access method of the data base structure. His tutor said: "Ralph completed all the work and demonstrated a good understanding of data base techniques in general. He also demonstrated a detailed understanding of the portions of the IBM IMS data base needed to design a system."

In concluding this contract, Ralph underwent a seven week internship with Surgicot Corporation of Rochester, a manufacturer of plastic bags. In preparation for this systems analysis project, he read Structural Analysis and Systems Specifications by Tom DeMarco. Ralph designed a program for tracking the progress of all jobs going through the system (approximately 600) and one with the capability of producing a wide variety of reports. Ralph described his internship in more detail.

> It involved designing and building an interlocking set of programs to collect, proofread, correct, store, index and recall production data. These programs also maintained files, moved files, revised and deleted files, calculated necessary values, and formatted and printed reports.
>
> All of these programs were written for, and are run on, a microcomputer. Creating them required detailed and

> technical knowledge of microcomputers, microcomputer operating systems, and architecture. Such knowledge is rarely required for business systems development on mainframe computers. I believe the demand for jobs like this will grow, and I don't believe a graduate of a traditional computer science program could have done it.

The tutor supervising Ralph's work made these evaluative comments. "Flint used a real project for his system specifications. He did all that is listed above in detail and then coded all the programs. He produced a complete set of documentation for the system specifications plus documentation for all programs. Excellent work." Ralph's mentor added this comment regarding the benefits of the internship. "Of equal importance is his demonstrated ability in a business environment to discuss the needs of a computer user, develop a system that satisfies that need, and train personnel in the use of the system. Such interpersonal skills are valuable to the systems programmer."

In looking at Ralph's degree program and contract learning, the faculty review panel judged the overall quality of his work as outstanding. More specifically, the panel judged his understanding of theoretical concepts as outstanding; his grasp of major methods of inquiry as outstanding; his comprehension of basic facts and specific knowledge as outstanding; his skill of synthesis as satisfactory plus; and the overall student learning achieved as outstanding. Ralph told the research staff he did better than average work and that his program at ESC was as good as he could have obtained anywhere else. Ralph was a perfectionist, and he held very high expectations for his work.

The review panel raised several questions regarding Ralph's program. First was the degree program finally developed satisfactorily and were there adequate resources to support it? Ralph's mentor replied he was "very

satisfied with the final program designed. He and Ralph struggled to construct this program in a new field for the center. Resources were adequate given the student's focus on micros; the weakness may be lack of sufficient mainframe experience." In regard to resources, he took courses at Rochester Institute of Technology (data structures and operating systems) and used the University of Rochester's Computing Center to practice language skills (COBOL). Ralph also worked with four tutors who provided assistance in math and systems analysis. In addition, Ralph had unlimited access to the center's Apple computer and became the first assistant in the newly formed computer lab. Ralph said he was very satisfied with the final degree program designed and that he was able to locate resources in Rochester since they were not available at the center. Yet he admitted "it was pretty hard as a matter of fact" in some contracts to locate the right tutor and determine what needed to be studied.

Ralph's mentor was a key resource for him. Ralph saw his mentor daily on project studies and as the student assistant in the computer lab. This close association and the character of computer study meant there was constant feedback and a high level of evaluation of Ralph's work. Although there was a substantial challenge posed by Ralph's program, Ralph and his mentor worked well together and established a very effective relationship.

A second question posed by the panel concerned the sufficiency of mathematical methods for computer programming. When asked, Ralph's mentor replied that a "demanding tutor was used in the contract on discrete mathematical structures." The mentor thought there was a good balance to the program for this type of computer focus and the student will learn more math if he needs it. "Within two weeks of graduation, Ralph had landed a good job in programming microcomputers in Texas."

When asked this same question, Ralph said that for the programming work he is now doing, his math training was satisfactory. But after working for two years, he would take "more discrete math subjects now--abstract algebra, graph theory, etc., instead of so much calculus. I fell in love with math and my mentor had to encourage me to move onto computer subjects." Ralph has taken more math at the graduate level since moving to Texas.

A third question asked by the panel reviewers concerned the level of complexity in Ralph's systems development internship and the level of sophistication he demonstrated in handling problems. His mentor responded to this question: "This seven-week internship was complex--Ralph designed system specifications, flow charts, file designs, report designs, program descriptions, program codes, programmed and debugged the system. Ralph provided excellent documentation and trained personnel at Surgicot to use it. A large data base was involved and the student approached the task in a sophisticated fashion, displaying interpersonal skills as a systems programmer to meet user needs."

When asked by research staff what the single most important benefit Ralph obtained from an ESC education, he replied: "In practical terms--I got exactly the kind of job I wanted. I couldn't have done what I did at ESC anywhere else." To the same question his mentor said: "Ralph learned how to deal more effectively with people. This came out of interaction with the mentor, with other students, and with the internship experience.

When asked what the greatest challenge was, Ralph focused on the resources area.

> I had to do everything myself. I read constantly and wandered around bookstores to keep an eye on new materials coming out. I assigned myself tasks but I had no way of knowing whether I had bitten off too much or too little. There was no one to say that I had assigned myself a trivial task. A couple of times I bit off much too

> much--no one recognized whether I put 10 hours or 100 hours into a job. I felt there was a systematic lack of depth at the center concerning computer resources and advise. I really had to most of my program on my own!

His mentor responded to the same question in very similar terms. "Ralph had to research the computer science field and sort out what computer professionals and a very rapidly changing field could mean to his degree program. This general essay is a fascinating account of how he grappled with this matter."

Both Ralph and his mentor offered suggestions for improving the center's capability in offering computer concentrations. These suggestions focused on expanding faculty expertise in the computer area, adding additional equipment, and gaining access to mainframe computers in the Rochester area. Since Ralph started his program in fall 1980, the center has established a computer-math lab and has acquired four Apple microcomputers and a range of software packages. In addition to Ralph's mentor, the center has hired another mentor with a background in math who does some programming, and retains the services of a third mentor (quarter-time) to assist students. The center has also found a systems analyst who works as an adjunct with six or seven students. The computer-math lab has a permanent tutor and a part-time volunteer on duty and the lab is now open evenings and weekends to serve students. Yet with all of these positive steps, the center staff faces a critical shortage of faculty experience and computer resources in this high demand and rapidly changing field.

Ralph was a pioneer in putting together a degree program in computer information systems. As an exceptional student, he was well motivated, very enterprising, and pursued independent studies well. Starting with essentially no knowledge of computers and with a minimum of support and guidance from the

faculty and the center, Ralph constructed and carried out his degree program in a very effective fashion. As a computer programmer for BPI systems in Texas (a leading seller of microcomputers for accounting systems), Ralph can now look back on his ESC experience and say "I couldn't have done what I did at ESC anywhere else."

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